

SEQUENCE LISTING

<110> Block, Andreas

<120> Recombinant Viral Vectors for the Tetracycline-regulated Expression of Genes

<130> 66741-043

<140> US 10/511,237

<141> 2004-10-12

<160> 5

<170> PatentIn version 3.1

<210> 1

<211> 11569

<212> DNA

<213> Artificial Sequence

<220>

<223> Adenoviral expression plasmid pAd.3r.hscIL-12 for regulated expression of human IL-12

<220>

<221> gene

<222> (327)..(713)

<223> VP16

<220>

<221> gene

<222> (714)..(1352)

<223> TetR

<220>

<221> Intron

<222> (1353)..(1912)

<223>

<220>

<221> promoter

<222> (1864)..(1902)

<223> TK-min

<220>

<221> protein_bind

<222> (1913)..(2212)

<223> TetO7

<220>

<221> misc_feature

<222> (2213)..(2709)

<223> CMV-min + Intron

<220>

<221> promoter
<222> (2226)..(2264)
<223> CMV-min

<220>
<221> gene
<222> (2710)..(4308)
<223> Human single-chain IL-12

<220>
<221> mutation
<222> (4020)..(4023)
<223> T/C, A/T, G/C, T/G

<400> 1
ctgctggttc tttccgcctc agaagccata gagcccaccg catccccagc atgcctgcta 60
ttgtcttccc aatcctcccc ctgctgtgcc tgccccaccc cccccccagc aatagaatga 120
cacctactca gacaatgcga tgcaatttcc tcattttatt aggaaaggac agtgggagtg 180
gcaccttcca gggtaagga aggcacgggg gaggggcaaa caacagatgg ctggcaacta 240
gaaggcacag tcgaggctga tcagcgagct ctagcattta ggtgacacta tagaataggg 300
ccctctagga tcgatcctcg cgccccctac ccaccgtact cgtcaattcc aagggcacgc 360
gtaaaccatct gctcaaactc gaagtcggcc atatccagag cgccgtaggg ggcggagtcg 420
tggggggtaa atcccgacc cggggaatcc ccgtcccca acatgtccag atcgaaatcg 480
tctagcgcgt cggcatgcgc catcgccacg tcctcgccgt ctaagtggag ctctgcccc 540
aggctgacat cggtcggggg ggccgtggac agtctgcgcg tgtgtccgcg ggggagaaag 600
gacaggcgcg gagccgccag cccgcctct tcgggggcgt cgtcgtccgg gagatcgagc 660

aggccctcga tggtagacc gtaattgttt ttcgtacgcg cgcggtgta cgcggaacca 720
ctttcacatt taagttgttt ttctaattccg catatgatca attcaaggcc gaataagaag 780
gctggctctg caccttggtg atcaaataat tcgatagctt gtcgtaataa tggcggcata 840
ctatcagtag taggtgtttc cttttcttct ttagcgactt gatgctcttg atcttccaat 900
acgcaacctc aagtaaaatg cccacagcg ctgagtgcatt ataatgcatt ctctagtga 960
aaaccttggt ggcataaaaa ggctaattga ttttcgagag tttcactactg tttttctgta 1020
ggccgtgtac ctaaatgtac ttttgctcca tcgcgatgac ttagtaaaagc acatctaaaa 1080
cttttagcgt tattacgtaa aaaatcttgc cagctttccc cttctaaagg gcaaaagtga 1140
gtatggtgcc tatctaaccat tcfaatggct aaggcgtcga gcaaagcccg cttatttttt 1200
acatgccaat acaatgtagg ctgctctaca cctagcttct gggcgagttt acgggttggt 1260
aaaccttcga ttccgacctc attaatgcgc tctaattgcg tgtaatcac tttactttta 1320
tctaattctag agggctctggg tctctttggc atggtcgaat taattcgcgt cgagccggcc 1380
gcgggtacaa ttccggttg acctgggagt ggacacctgt ggagagaaag gcaaagtgga 1440
tgtcattgtc actcaagtgt atggccagat ctcaagcctg ccacacctca agcttgacaa 1500
caaaaagatt gtcttttctg accagatgga cgcgccacc ctcaaaggca tcaccgcggg 1560
ccaggatgaat atcaaatcct cctcgttttt ggaaactgac aatcttagcg cagaagtcatt 1620
gcccgttttt gagagggagt actcacccca acagtcgaga ggttttccga tccggtcgat 1680
gcggactcgc tcaggccct cggtggcgga gtaccgttcg gaggccgacg ggtttccgat 1740
ccaagagtac tggaaaagacc gcgaagagtt tgtcctcaac cgcgagccca acaggcgtcg 1800
aagcttgatg ggctcgctcg tggtcgaggc cacacgcgtc accttaatat gcgaagtgga 1860
cctcggaccg cgccgccccg actgcattctg cgtgttcgaa ttgcccgcg agctcgactt 1920
tcacttttct ctatcactga tagggagtg taaactcgac tttcactttt ctctatcact 1980
gataggaggt ggtaaaactcg actttcactt ttctctatca ctgataggga gtggtaaaact 2040
cgactttcac ttttctctat cactgatagg gagtggtaaa ctcgactttc acttttctct 2100
atcactgata gggagtggta aactcgactt tcacttttct ctatcactga tagggagtg 2160
taaactcgac tttcactttt ctctatcact gataggaggt ggtaaaactcg acggtcgagg 2220
gtcagtagg cgtgtacggt gggaggccta tataagcaga gctcgtttag tgaaccgtca 2280
gatcgccctg agacgccatc cagcgtgttt tgacctccat agaagacacc gggaccgatc 2340
cagcctccgc ggccccgaat tgcaagcgtt tattgcggta gtttatcaca gttaaattgc 2400
taacgcagtc agtgcttctg acacaacagt ctcgaactta agctgcagaa gttggtcgtg 2460

aggcactggg	caggtaagta	tcaaggttac	aagacaggtt	taaggagacc	aatagaaact	2520
gggcttgctg	agacagagaa	gactcttgcg	tttctgatag	gcacctattg	gtcttactga	2580
catccacttt	gcctttctct	ccacaggtgt	ccactcccag	ttcaattaca	gctcttaagg	2640
ctagagtact	taatacgact	cactataggc	tagcctcgag	aattcacgcg	tggtagcgag	2700
ctcggatcca	tgggtcacca	gcagttggtc	atctcttggt	tttccctggt	ttttctggca	2760
tctcccctcg	tggccatatg	ggaactgaag	aaagatgttt	atgtcgtaga	attggattgg	2820
tatccggatg	cccctggaga	aatggtggtc	ctcacctgtg	acacccctga	agaagatggt	2880
atcacctgga	ccttggacca	gagcagtgag	gtcttaggct	ctggcaaaac	cctgaccatc	2940
caagtcaaag	agtttggaga	tgctggccag	tacacctgtc	acaaaggagg	cgaggttcta	3000
agccattcgc	tcctgtctgt	tcacaaaaag	gaagatggaa	tttgggtccac	tgatatttta	3060
aaggaccaga	aagaacccaa	aaataagacc	tttctaagat	gcgaggccaa	gaattattct	3120
ggacgtttca	cctgctggtg	gctgacgaca	atcagtagct	atgtgacatt	cagtggtcaa	3180
agcagcagag	gctcttctga	cccccaaggg	gtgacgtgcg	gagctgctac	actctctgca	3240
gagagagtca	gaggggacaa	caaggagtat	gagtactcag	tggagtgcc	ggaggacagt	3300
gcctgcccg	ctgctgagga	gagctctgcc	attgaggtca	tgggtggatgc	cggttcacaag	3360
ctcaagtatg	aaaactacac	cagcagcttc	ttcatcaggg	acatcatcaa	acctgaccga	3420
cccaagaact	tgacagtgaa	gccattaaag	aattctcggc	aggtggaggt	cagctgggag	3480
tacctgaca	cctggagtac	tcacatttcc	tacttctccc	tgacattctg	cggttcaggtc	3540
cagggaaga	gcaagagaga	aaagaaagat	agagctctca	cggacaagac	ctcagccacg	3600
gtcatctgcc	gcaaaaaatg	cagcattatg	gtgcggggcc	aggaccgcta	ctatagctca	3660
tcttgagcgc	aatgggcatc	tgtgccctgc	agtgtgtggc	gtggcgggcg	atctagaaac	3720
ctccccgtgg	ccactccaga	cccaggaatg	ttcccatgcc	ttcaccactc	ccaaaacctg	3780
ctgagggcgc	tcagcaacat	gctccagaag	gccagacaaa	ctctagaatt	ttacccttgc	3840
acttctgaag	agattgatca	tgaagatata	acaaaagata	aaaccagcac	agtggaggcc	3900
tgttttacat	tggaaattaac	caagaatgag	agttgcctaa	attccagaga	gacctctttc	3960
ataactaatg	ggagttgcct	ggcctccaga	aagacctctt	ttatgatggc	cctgtgcctc	4020
tcgagtattt	atgaagactc	gaagatgtac	caggtggagt	tcaagaccat	gaatgcaaag	4080
cttctgatgg	atcctaagag	gcagatcttt	ctagatcaaa	acatgctggc	agttattgat	4140
gagctgatgc	aggccctgaa	tttcaacagt	gagactgtgc	cacaaaaaat	ctcccttgaa	4200
gaaccggatt	tttataaaaac	taaaatcaag	ctctgcatac	ttcttcatgc	tttcagaatt	4260
cgggcagtga	ctattgatag	agtgatgagc	tatctgaatg	cttcctaaaa	agcgaggtcg	4320
atccggatta	gtccaatttg	ttaaagacag	gatatacagt	gtccaggctc	tagttttgac	4380
tcaacaatat	caccagctga	agcctataga	gtacgagcca	tagataaaat	aaaagatttt	4440
atttagtctc	cagaaaaagg	ggggaatgaa	agacccacc	tgtaggtttg	gcaagctagt	4500
aacggccggc	agtgtgctgg	aattctgcag	atatccatca	cactggcggc	cgctcgagca	4560
tgcatctaga	gggccctatt	ctatagtgtc	acctaataatg	tagagctcgc	tgatcagcct	4620
cgactgtgcc	ttctagtgtc	cagccatctg	ttgtttgccc	ctcccccggt	ccttccttga	4680
ccctggaagg	tgccactccc	actgtccttt	cctaataaaa	tgaggaaatt	gcatcgcat	4740
gtctgagtag	gtgtcattct	attctggggg	gtggggtggg	gcaggacagc	aagggggagg	4800
attgggaaga	caatagcagg	catgctgggg	atgcggtggg	ctctatggct	tctgaggcgg	4860
aaagaaccag	tcgacatcga	tgctagagtg	gaaggtgctg	aggtacgatg	agaccgcac	4920
caggtgcaga	ccctgcgagt	gtggcggtaa	acataattag	aaccagcctg	tgatgctgga	4980
tgtgaccgag	gagctgaggc	ccgatcactt	ggtgctggcc	tgaccccgcg	ctgagtttgg	5040
ctctagcgat	gaagatacag	attgaggtac	tgaatgtgt	ggcggtggct	taagggtggg	5100
aaagaatata	taaggtgggg	gtcttatgta	gttttgatc	tgttttgcag	cagccgccc	5160
cgccatgagc	accaactcgt	ttgatggaag	cattgtgagc	tcataatttg	caacgcgc	5220
gccccatgg	gccgggggtg	gtcagaatgt	gatgggctcc	agcattgatg	gtcgccccgt	5280
cctgcccgc	aactctacta	ccttgacctc	cgagaccgtg	tctggaacgc	cggttgagac	5340
tgacgctcc	gccgcgctt	cagccgctgc	agccaccgcc	cgcgggattg	tgactgactt	5400
tgctttcctg	agcccgttg	caagcagtg	agcttcccgt	tcacccgccc	gcgatgacaa	5460
gttgacggct	cttttggcac	aattggattc	tttgaccggg	gaacttaatg	tcgttttcta	5520
gcagctgttg	gatctgcgc	agcaggtttc	tgccctgaag	gcttcctccc	ctcccaatgc	5580
ggtttaaaa	ataaataaaa	aaccagactc	tggttggttg	tggatcaagc	aagtgtcttg	5640
ctgtctttat	ttaggggttt	tgcgcgcgcg	gtaggcccgg	gaccagcggt	ctcggtcggt	5700
gagggctcctg	tgtatttttt	ccaggacgtg	gtaaaaggta	ctctggatgt	tcagatacat	5760
gggcataaag	ccgtctctgg	ggtggaggta	gcaccactgc	agagcttcat	gctgcggggg	5820
ggtgttgtag	atgatccagt	cgtagcagga	gcgctggggc	tgggtgcctaa	aaatgtcttt	5880

cagtagcaag	ctgattgcca	ggggcaggcc	cttggtgtaa	gtgtttacaa	agcggttaag	5940
ctgggatggg	tgcatacgtg	gggatatgag	atgcaccttg	gactgtattt	ttaggttggc	6000
tatgttccca	gccatatccc	tccggggatt	catgttgtgc	agaaccacca	gcacagtgtg	6060
tccggtgcac	ttgggaaatt	tgtcatgtag	cttagaagga	aatgcgtgga	agaacttgga	6120
gacgcccttg	tgacctccaa	gattttccat	gcattcgtcc	ataatgatgg	caatgggcc	6180
acgggcggcg	gcctgggcga	agatatttct	gggatcacta	acgtcatagt	tgtgttccag	6240
gatgagatcg	tcataggcca	tttttacaaa	gcgcgggcgg	aggggtgccag	actgcggtat	6300
aatggttcca	tccggcccag	gggcgtagtt	accctcacag	atttgcattt	cccacgcttt	6360
gagttcagat	ggggggatca	tgtctacctg	cggggcgatg	aagaaaacgg	tttccggggg	6420
aggggagatc	agctgggaag	aaagcagggt	cctgagcagc	tgcgacttac	cgcagccggg	6480
gggcccgtaa	atcacacctg	ttaccgggtg	caactggtag	ttaagagagc	tgcagctgcc	6540
gtcatccctg	agcagggggg	ccacttcggt	aagcatgtcc	ctgactcgca	tgttttccct	6600
gaccaaattc	gccagaaggc	gctcgcgcgc	cagcgatagc	agttcttgca	aggaagcaaa	6660
gtttttcaac	ggtttgagac	cgtccgcgcg	aggcatgctt	ttgagcggtt	gaccaagcag	6720
ttccaggcgg	tcccacagct	cggtcacctg	ctctacggca	tctcgatcca	gcataatctc	6780
tcgtttcgcg	ggttggggcg	gctttcgctg	tacggcagta	gtcgggtgctc	gtccagacgg	6840
gccagggtca	tgtctttcca	cgggcgcagg	gtcctcgtca	gcgtagtctg	ggtcacgggtg	6900
aaggggtgcg	ctccgggctg	cgcgctggcc	aggggtgcgt	tgaggctggg	cctgctgggtg	6960
ctgaagcgct	gccggtcttc	gccctgcgcg	tcggccagggt	agcatttgac	catggtgtca	7020
tagtccagcc	cctccgcggc	gtggcccttg	gcgcgcagct	tgcccttgga	ggaggcgccg	7080
cacgaggggc	agtgcagact	tttgaggggc	tagagcttgg	gcgcgagaaa	taccgattcc	7140
ggggagtagg	catccgcgcc	gcaggccccg	cagacgggtc	cgcattccac	gagccagggtg	7200
agctctggcc	gttcggggtc	aaaaaccagg	tttcccccat	gctttttgat	gcgtttctta	7260
cctctggttt	ccatgagccg	gtgtccacgc	tcggtgacga	aaaggctgtc	cgtgtccccg	7320
tatacagact	tgagaggcct	gtcctcgacc	gatgcccttg	agagccttca	acccagtcag	7380
ctccttccgg	tgggcgcggg	gcatgactat	cgtcgcgcga	cttatgactg	tcttctttat	7440
catgcaactc	gtaggacagg	tgccggcagc	gctctgggtc	attttcggcg	aggaccgctt	7500
tcgctggagc	gcgacgatga	tcggcctgtc	gcttgcggtg	ttcggaatct	tgcacgccct	7560
cgctcaagcc	ttcgtcactg	gtcccgccac	caaacgtttc	ggcgagaagc	aggccattat	7620
cgccggcatg	gcggccgacg	cgctgggcta	cgtcttgctg	gcgttcgcga	cgcgaggctg	7680
gatggccttc	cccattatga	ttcttctcgc	ttccggcggc	atcgggatgc	ccgcgttgca	7740
ggccatgctg	tccaggcagg	tagatgacga	ccatcaggga	cagcttcaag	gatcgctcgc	7800
ggctcttacc	agcctaactt	cgatcactgg	accgctgac	gtcacggcga	tttatgccgc	7860
ctcggcgagc	acatggaacg	ggttggcatg	gattgtaggc	gccgccctat	accttgctcg	7920
cctccccgcg	ttgcgtcgcg	gtgcatggag	cggggccacc	tcgacctgaa	tggaagcccg	7980
cggcacctcg	ctaacggatt	caccactcca	agaattggag	ccaatcaatt	cttgccggaga	8040
actgtgaatg	cgcaaaccac	cccttggcag	aacatatcca	tcgcgtccgc	catctccagc	8100
agccgcacgc	ggcgcatctc	gggcagcggt	gggtcctggc	cacgggtgcg	catgatcggtg	8160
ctcctgtcgt	tgaggacccg	gctaggtcgg	cgggggttgc	ttactgggtg	gcagaatgaa	8220
tcaccgatac	gcgagcgaac	gtgaagcgac	tgctgctgca	aaacgtctgc	gacctgagca	8280
acaacatgaa	tggtcttcgg	tttccgtggt	tcgtaaaagtc	tggaacgcgc	gaagtcagcg	8340
ccctgcacca	ttatgttccg	gatctgcatc	gcaggatgct	gctggctacc	ctgtggaaca	8400
cctacatctg	tattaacgaa	gcgctggcat	tgaccctgag	tgatttttct	ctggtcccgc	8460
cgcatccata	ccgccagttg	tttaccctca	caacgttcca	gtaaccgggc	atgttcatca	8520
tcagtaaccc	gtatcgtgag	catcctctct	cgtttcatcg	gtatcattac	ccccatgaac	8580
agaaattccc	ccttacacgg	aggcatcaag	tgacaaaaca	ggaaaaaac	gcccttaaca	8640
tgggccgctt	tatcagaagc	cagacattaa	cgcttctgga	gaaactcaac	gagctggacg	8700
cggatgaaca	ggcagacatc	tgtgaatcgc	ttcacgacca	cgtgatgag	ctttaccgca	8760
gctgcctcgc	gcgtttcggt	gatgacgggtg	aaaacctctg	acacatgcag	ctcccggaga	8820
cggtcacagc	ttgtctgtaa	gcggatgccg	ggagcagaca	agcccgtcag	ggcgcgctcag	8880
cgggtgttgg	cgggtgtcgg	ggcgcagcca	tgaccagtc	acgtagcgat	agcggagtgt	8940
atactggctt	aactatgcgg	catcagagca	gattgtactg	agagtgcacc	atatgcgggtg	9000
tgaaataaccg	cacagatgcg	taaggagaaa	ataccgcac	aggcgctctt	ccgcttctc	9060
gctcactgac	tcgctgcgct	cggctcgctg	gctgcggcga	gcgggtatcag	ctcactcaaa	9120
ggcggtaata	cggttatcca	cagaatcagg	ggataacgca	ggaaagaaca	tgtgagcaaa	9180

aggccagcaa	aaggccagga	accgtaaaaa	ggcgcggttg	ctggcggtttt	tccataggct	9240
ccgccccct	gacgagcatc	acaaaaatcg	acgctcaagt	cagaggtggc	gaaacccgac	9300
aggactataa	agataccagg	cgtttcccc	tggaagctcc	ctcgtgcgct	ctcctgttcc	9360
gacctgccc	cttaccggat	acctgtccgc	ctttctccct	tcgggaagcg	tggcgctttc	9420
tcaatgctca	cgctgtaggt	atctcagttc	gggtgtaggtc	gttcgctcca	agctgggctg	9480
tgtgcacgaa	cccccggttc	agccccagcg	ctgcgcctta	tccggttaact	atcgtcttga	9540
gtccaacccg	gtaagacacg	acttatcgcc	actggcagca	gccactggta	acaggattag	9600
cagagcgagg	tatgtaggcg	gtgctacaga	gttcttgaag	tgggtggccta	actacggcta	9660
cactagaagg	acagtattttg	gtatctgcgc	tctgctgaag	ccagttacct	tcggaaaaag	9720
agttggtagc	tcttgatccg	gcaaacaaac	caccgctggg	agcgggtgggt	tttttggttg	9780
caagcagcag	attacgcgca	gaaaaaaagg	atctcaagaa	gatcctttga	tcttttctac	9840
ggggtctgac	gctcagtggg	acgaaaactc	acgttaaggg	attttgggtca	tgagattatc	9900
aaaaaggatc	ttcacctaga	tcctttttaa	ttaaaaatga	agttttaaat	caatctaaag	9960
tatatatgag	taaacttggt	ctgacagtta	ccaatgctta	atcagtgagg	cacctatctc	10020
agcgatctgt	ctatttcggt	catccatagt	tgcctgactc	cccgtcgtgt	agataactac	10080
gatacgggag	ggcttaccat	ctggccccag	tgctgcaatg	ataccgcgag	acccacgctc	10140
accggctcca	gatttatcag	caataaacca	gccagccgga	agggccgagc	gcagaagtgg	10200
tcttgcaact	ttatccgcct	ccatccagtc	tattaattgt	tgccgggaag	ctagagtaag	10260
tagttcgcca	gttaatagtt	tgcgcaacgt	tggttgccatt	gctgcaggca	tcgtgggtgc	10320
acgctcgtcg	tttggtatgg	cttcattcag	ctccggttcc	caacgatcaa	ggcgagttac	10380
atgatcccc	atgttgtgca	aaaaagcggt	tagctccttc	ggtcctccga	tcgttgctcag	10440
aagtaagttg	gccgcagtg	tatcactcat	ggttatggca	gcactgcata	attctcttac	10500
tgtcatgcc	tccgtaagat	gcttttctgt	gactgggtgag	tactcaacca	agtcattctg	10560
agaatagtgt	atgcggcgac	cgagttgctc	ttgccggcg	tcaacacggg	ataataccgc	10620
gccacatagc	agaactttta	aagtgtcat	cattggaaaa	cgttcttcgg	ggcgaaaact	10680
ctcaaggatc	ttaccgctgt	tgagatccag	ttcgatgtaa	cccactcgtg	cacccaactg	10740
atcttcagca	tcttttactt	tcaccagcgt	ttctgggtga	gcaaaaacag	gaaggcaaaa	10800
tgccgcaaaa	aagggaataa	ggcgacacg	gaaatgttga	atactcatac	tcttcctttt	10860
tcaatattat	tgaagcattt	atcagggtta	ttgtctcatg	agcgataaca	tatttgaatg	10920
tatttagaaa	aataaacaaa	taggggttcc	gcgcacattt	ccccgaaaag	tgccacctga	10980
cgtctaagaa	accattatta	tcatgacatt	aacctataaa	aataggcgta	tcacgaggcc	11040
ctttcgtctt	caagaattct	tatcatgaca	ttaacctata	aaaataggcg	tatcacgagg	11100
ccctttcgtc	atcatcaata	atatacctta	ttttggattg	aagccaatat	gataatgagg	11160
gggtggagtt	tgtgacgtgg	cgcgggcggt	gggaacgggg	cggtgacgt	agtagtgtgg	11220
cggaagtgtg	atgttgcaag	tgtggcgga	cacatgtaag	cgccgatgt	ggtaaaagtg	11280
acgttttttg	tgtgcgccg	tgtatacggg	aagtgacaat	tttcgcgcgg	ttttaggcgg	11340
atgttgtagt	aaatttgggc	gtaaccaagt	aatgtttggc	cattttcgcg	ggaaaactga	11400
ataagaggaa	gtgaaatctg	aataattctg	tgttactcat	agcgcgtaat	atttgtctag	11460
ggcgcggggg	actttgaccg	tttacgtgga	gactcgccca	ggtgtttttc	tcagggtgtt	11520
tccgcgttcc	gggtcaaagt	tggcgtttta	ttattatagt	cagctctag		11569

<210> 2

<211> 11458

<212> DNA

<213> Artificial Sequence

<220>

<223> Adenoviral expression plasmid pAd.3r.mscIL-12 for regulated expression of murine IL-12

<220>

<221> gene

<222> (327)..(713)

<223> VP16

<220>
<221> gene
<222> (714)..(1352)
<223> TetR

<220>
<221> Intron
<222> (1353)..(1912)
<223>

<220>
<221> promoter
<222> (1864)..(1902)
<223> TK-min

<220>
<221> protein_bind
<222> (1913)..(2212)
<223> TetO7

<220>
<221> misc_feature
<222> (2213)..(2687)
<223> CMV-min + Intron

<220>
<221> promoter
<222> (2226)..(2264)
<223> CMV-min

<220>
<221> gene
<222> (2688)..(4325)
<223> Murine single-chain IL-12

<400> 2
ctgctggttc tttccgcctc agaagccata gagcccaccg catccccagc atgcctgcta 60
ttgtcttccc aatcctcccc ctgctgtgcc tgccccaccc cccccccagc aatagaatga 120
cacctactca gacaatgcga tgcaatttcc tcattttatt aggaaaggac agtgggagtg 180
gcaccttcca gggcgaagga aggcacgggg gaggggcaaa caacagatgg ctggcaacta 240
gaaggcacag tcgaggctga tcagcgagct ctagcattta ggtgacacta tagaataggg 300
ccctctagga tcgatcctcg cgccccctac ccaccgtact cgtcaattcc aagggcatcg 360
gtaaacaatct gctcaaaactc gaagtcggcc atatccagag cgccgtaggg ggcggagtcg 420
tggggggtaa atcccggacc cggggaatcc ccgtcccca acatgtccag atcgaaatcg 480
tctagcgcgt cggcatgcgc catcgccacg tcctcgccgt ctaagtggag ctctgtcccc 540
aggctgacat cggtcggggg ggccgtggac agtctgcgcg tgtgtcccgc ggggagaaaag 600
gacaggcgcg gagccgccag ccccgccctc tcggggggtc cgtcgtccgg gagatcgagc 660
aggccctcga tggtagaccc gtaattgttt ttcgtacgcg cgcggctgta cgcggaccca 720
ctttcacatt taagtgttt ttctaattccg catatgatca attcaaggcc gaataagaag 780
gctggctctg cacccttggtg atcaataaat tcgatagctt gtcgtaataa tggcggcata 840
ctatcagtag taggtgtttc cttttcttct ttagcgactt gatgctcttg atcttccaat 900
acgcaacctc aagtaaaatg cccacacagc ctgagtgcat ataatgcatt ctctagtga 960
aaaccttggt ggcataaaaa ggctaattga ttttcgagag tttcatactg tttttctgta 1020
ggccgtgtac ctaaaatgtac ttttgctcca tcgcatgac ttagtaaaagc acatctaaaa 1080
cttttagcgt tattacgtaa aaaatcttgc cagctttccc cttctaaagg gcaaaaagtga 1140
gtatggtgcc tatctaacaat ctcaatggct aagcgctcga gcaaaagccc cttatttttt 1200
acatgccaat acaatgtagg ctgctctaca cctagcttct gggcgagttt acgggtgtgt 1260

aaaccttcga	ttccgacctc	attaagcagc	tctaattgcgc	tggttaatcac	tttacttttta	1320
tctaattctag	aggggtctggg	tctcttttggc	atgggtcgaat	taatttcgcgt	cgagccgggcc	1380
gcgggtacaa	ttccggttgg	acctgggagt	ggacacctgt	ggagagaaaag	gcaaagtggga	1440
tgctattgtc	actcaagtgt	atggccagat	ctcaagcctg	ccacacctca	agcttgacaa	1500
caaaaagatt	gtcttttctg	accagatgga	cgcggccacc	ctcaaaggca	tcaccgcggg	1560
ccaggtgaat	atcaaatacct	cctcgttttt	ggaaactgac	aatcttagcg	cagaagtcac	1620
gcccgtttt	gagagggagt	actcacccca	acagtcgaga	ggttttccga	tccggtcgat	1680
gcggactcgc	tcaggtccct	cggtggcgga	gtaccgttcg	gaggccgacg	ggtttccgat	1740
ccaagagtac	tggaaagacc	gcgaagagtt	tgtcctcaac	cgcgagccca	acaggcgctcg	1800
aagcttgatg	ggtcgctcgg	tggtcgaggc	cacacgcgtc	accttaatat	gcgaagtggga	1860
cctcggaccg	cgccgccccg	actgcatctg	cgtgttcgaa	ttgcccggcg	agctcgactt	1920
tcacttttct	ctatcactga	tagggagtgg	taaactcgac	tttcaactttt	ctctatcact	1980
gatagggagt	ggtaaactcg	actttcactt	ttctctatca	ctgataggga	gtggtaaact	2040
cgactttcac	ttttctctat	cactgatagg	gagtggtaaa	ctcgactttc	acttttctct	2100
atcactgata	gggagtggta	aactcgactt	tcacttttct	ctatcactga	tagggagtgg	2160
taaactcgac	tttcaactttt	ctctatcact	gatagggagt	ggtaaactcg	acggtcgagg	2220
gtcgagtagg	cgtgtacggg	gggaggccta	tataagcaga	gctcgttttag	tgaaccgtca	2280
gatcgctcgg	agacgccatc	cacgctgttt	tgacctccat	agaagacacc	gggaccgatc	2340
cagcctccgc	ggccccgaat	tgcgaagctt	tattgcggta	gtttatcaca	gttaaattgc	2400
taacgcagtc	agtgttctg	acacaacagt	ctcgaactta	agctgcagaa	gttggtcgtg	2460
aggcaactgg	caggtaagta	tcaaggttac	aagacaggtt	taaggagacc	aatagaaact	2520
gggcttgctg	agacagagaa	gactcttgcg	tttctgatag	gcacctattg	gtcttactga	2580
catccacttt	gcctttctct	ccacaggtgt	ccactcccag	ttcaattaca	gctcttaagg	2640
ctagagtact	taatacgact	cactataggc	tagcctcgag	aattcgaaatg	gccatgggtc	2700
ctcagaagct	aaccatctcc	tggtttgcc	tcgttttgct	ggtgtctcca	ctcatggcca	2760
tgtgggagct	ggagaaagac	gtttatgttg	tagaggtgga	ctggactccc	gatgccctcg	2820
gagaaacagt	gaacctcacc	tgtgacacgc	ctgaagaaga	tgacatcacc	tggacctcag	2880
accagagaca	tggagtcata	ggctctggaa	agaccctgac	catcactgtc	aaagagtttc	2940
tagatgctgg	ccagtacacc	tgccacaaaag	gaggcgagac	tctgagccac	tcacatctgc	3000
tgctccacaa	gaaggaaaat	ggaatttggt	ccactgaaat	tttaaaaaat	ttcaaaaaaca	3060
agactttcct	gaagtgtgaa	gcaccaaatt	actccggacg	gttcacgtgc	tcattggctgg	3120
tgcaaagaaa	catggacttg	aagttcaaca	tcaagagcag	tagcagttcc	cctgactctc	3180
gggcagtac	atgtggaatg	gcgtctctgt	ctgcagagaa	ggtcacactg	gaccaaaggg	3240
actatgagaa	gtattcagtg	tcctgccagg	aggatgtcac	ctgcccact	gccgaggaga	3300
cctgccccat	tgaactggcg	ttggaagcac	ggcagcagaa	taaatatgag	aactacagca	3360
ccagcttctt	catcagggac	atcatcaaac	cagaccgcgc	caagaacttg	cagatgaagc	3420
ctttgaagaa	ctcacagggtg	gaggtcagct	gggagctacc	tgactcctgg	agcactcccc	3480
attcctactt	ctccctcaag	ttctttgttc	gaatccagcg	caagaaagaa	aagatgaagg	3540
agacagagga	ggggtgtaac	cagaaaagggtg	cgttcctcgt	agagaagaca	tctaccgaag	3600
tccaatgcaa	aggcgggaat	gtctgcgtgc	aagctcagga	tcgctattac	aattcctcat	3660
gcagcaagtg	ggcatgtgtt	ccctgcaggg	tccgatccgg	tggcgggtggc	tcgggcgggtg	3720
gtgggtcggg	tggcggcgga	tctaggggtca	ttccagttctc	tggacctgcc	aggtgtctta	3780
gccagtcccc	aaacctgctg	aagaccacag	atgacatggt	gaagacggcc	agagaaaaaac	3840
tgaaacatta	ttcctgcact	gctgaagaca	tcgatcatga	agacatcaca	cgggacaaaa	3900
ccagcacatt	gaagacctgt	ttaccactgg	aactacacaa	gaacgagagt	tgcctggcta	3960
ctagagagac	ttcttccaca	acaagaggga	gctgcctgcc	cccacagaag	acgtctttga	4020
tgatgacctt	gtgccttggt	agcatctatg	aggacttgaa	gatgtaccag	acagagttcc	4080
aggccatcaa	cgcagcactt	cagaatcaca	accatcagca	gatcattcta	gacaaggggca	4140
tgctggtggc	catcgatgag	ctgatgcagt	ctctgaatca	taatggcgag	actctgcgcc	4200
agaaacctcc	tgtgggagaa	gcagaccctt	acagagtgaa	aatgaagctc	tgcacacctgc	4260
ttcacgcctt	cagcacccgc	gtcgtgacca	tcaacagggt	gatgggctat	ctgagctccg	4320
cctgagaatt	gatccggatt	agtccaattt	gttaaagaca	ggatgggccc	tatatatgga	4380
tccactagta	acggccgcca	gtgtgctgga	attctgcaga	tatccatcac	actggcggcc	4440
gctcgagcat	gcacttagag	ggccctattc	tatagtgta	cctaaatgct	agagctcgct	4500
gatcagctc	gactgtgcct	tctagttgcc	agccatctgt	tgtttgcccc	tcccccgctg	4560
cttccttgac	cctggaagggt	ggcactccca	ctgtcctttc	ctaataaaaat	gaggaaaattg	4620
catcgcattg	tctgagtagg	tgtcatttcta	ttctggggggg	tgggggtgggg	caggacagca	4680

agggggagga	ttgggaagac	aatagcaggc	atgctgggga	tgcgggtgggc	tctatggcct	4740
ctgaggcgga	aagaaccagt	cgacatcgat	gctagagtgg	aaggtgctga	ggtacgatga	4800
gaccgcgacc	aggtgcagac	cctgcgagtg	tggcggtaaa	catattagga	accagcctgt	4860
gatgctggat	gtgaccgagg	agctgaggcc	cgatcacttg	gtgctggcct	gcaccgcgc	4920
tgagtttggc	tctagcgatg	aagatacaga	ttgaggtact	gaaatgtgtg	ggcgtggcct	4980
aaggttggga	aagaatatat	aaggtggggg	tcttatgtag	ttttgtatct	gttttgacgc	5040
agccgcccgc	gccatgagca	ccaactcgtt	tgatggaagc	attgtgagct	catatttgac	5100
aacgcgcagt	cccccatggg	ccgggggtgcg	tcagaatgtg	atgggctcca	gcattgatgg	5160
tcgccccgtc	ctgcccgcga	actctactac	cttgacctac	gagaccgtgt	ctggaacgcc	5220
gttgagagct	gcagcctccg	ccgccgcttc	agccgctgca	gccaccgccc	gcgggattgt	5280
gactgacttt	gctttcctga	gcccgtttgc	aagcagtgca	gcttcccgtt	catccgcccg	5340
cgatgacaag	ttgacggctc	ttttggcaca	attggattct	ttgaccgggg	aacttaatgt	5400
cgtttctcag	cagctgttgg	atctgcgcca	gcaggtttct	gccctgaagg	cttcctcccc	5460
tcccaatgcg	gtttaaaaca	taaataaaaa	accagactct	gtttggattt	ggatcaagca	5520
agtgtcttgc	tgtctttatt	taggggtttt	gcgcgcgcgg	taggcccggg	accagcggtc	5580
tcggtcgttg	agggctcctgt	gtattttttc	caggacgtgg	taaaggtgac	tctggatgtt	5640
cagatacatg	ggcataagcc	cgtctctggg	gtggaggtag	caccactgca	gagcttcatg	5700
ctgcgggggtg	gtgtttaga	tgatccagtc	gtagcaggag	cgctgggcgt	ggtgcctaaa	5760
aatgtctttc	agtagcaagc	tgattgccag	gggcaggccc	ttggtgtaag	tgtttacaaa	5820
gcggttaagc	tgggatgggt	gcatacgtgg	ggatgatgag	tgcatcttgg	actgtatttt	5880
taggttggct	atgttcccag	ccatatccct	ccggggattc	atgttgtgca	gaaccaccag	5940
cacagtgat	ccggtgcact	tgggaaattt	gtcatgtagc	ttagaaggaa	atgctgggaa	6000
gaacttggag	acgcccttgt	gacctccaag	attttccatg	cattcgtcca	taatgatggc	6060
aatgggcccc	cgggcggcgg	cctgggcgaa	gatatttctg	ggatcactaa	cgtcatagtt	6120
gtgttccagg	atgagatcgt	cataggccat	ttttacaaag	cgcgggcgga	gggtgccaga	6180
ctgcggtata	atggttccat	ccggcccagg	ggcgtagtta	ccctcacaga	tttgcatttc	6240
ccacgctttg	agttcagatg	gggggatcat	gtctacctgc	ggggcgatga	agaaaacggt	6300
ttccggggta	ggggagatca	gctgggaaga	aagcaggttc	ctgagcagct	gcgacttacc	6360
gcagccgggtg	ggcccgtaaa	tcacacctat	taccgggtgc	aactggtagt	taagagagct	6420
gcagctgccg	tcatccctga	gcaggggggc	cacttcgtta	agcatgtccc	tgactcgcat	6480
gttttccctg	accaaatccg	ccagaaggcg	ctcgccgccc	agcgatagca	gttcttgcaa	6540
ggaagcaaag	tttttcaacg	gtttgagacc	gtccgcctga	ggcatgcttt	tgagcgtttg	6600
accaagcagt	tccaggcggg	cccacagctc	ggtcacctgc	tctacggcat	ctcgatccag	6660
catatctcct	cgtttcgcgg	gttggggcgg	ctttcgtgtg	acggcagtag	tcgggtgctcg	6720
tccagacggg	ccagggtcat	gtctttccac	gggcgcaggg	tcctcgtcag	cgtagtctgg	6780
gtcacggtga	aggggtgcgc	tccgggctgc	cctgtggcca	gggtgcgctt	gaggctggtc	6840
ctgctgggtc	tgaagcgctg	ccgtcttcg	ccctgcgcgt	cggccaggta	gcatttgacc	6900
atggtgtcat	agttccagccc	ctccgcggcg	tggcccttgg	cgcgagctt	gcccttgagg	6960
gaggcgccgc	acgaggggca	gtgcagactt	ttgaggcggt	agagcttggg	cgcgagaaat	7020
accgattccg	gggagtaggc	atccgcgcgg	caggccccgc	agacgggtctc	gcattccacg	7080
agccagggtga	gctctggccg	ttcggggtca	aaaaccagggt	ttcccccatg	ctttttgatg	7140
cgtttcttac	ctctggtttc	catgagccgg	tgctcacgct	cggtgacgaa	aaggctgtcc	7200
gtgtccccgt	atacagactt	gagaggcctg	tcctcgaccg	atgcccttga	gagccttcaa	7260
cccagtcagc	tccttccggt	gggcgcgggg	catgactatc	gtcgccgcac	ttatgactgt	7320
cttctttatc	atgcaactcg	taggacaggt	gccggcagcg	ctctgggtca	tttctggcga	7380
ggaccgcttt	cgctggagcg	cgacgatgat	cggcctgtcg	cttgcggtat	tcggaatctt	7440
gcacgcccctc	gctcaagcct	tcgtcactgg	tcccgccacc	aaacgtttcg	gcgagaagca	7500
ggccattatc	gccggcatgg	cggccgacgc	gctgggctac	gtcttgctgg	cgttcgcgac	7560
gcgaggctgg	atggccttcc	ccattatgat	tcttctcgct	tccggcggca	tcgggatgcc	7620
cggttgagc	gccatgctgt	ccaggcaggt	agatgacgac	catcaggggac	agcttcaagg	7680
atcgctcgcg	gctcttacca	gcctaacttc	gatcactgga	ccgctgatcg	tcacggcgat	7740
ttatgccgcc	tcggcgagca	catggaacgg	gttggtgatg	attgtaggcg	ccgccctata	7800
ccttgctcgc	ctccccgcgt	tgcgtcgcgg	tgcatggagc	cgggccacct	cgacctgaat	7860
ggaagccggc	ggcacctcgc	taacggattc	accactccaa	gaattggagc	caatcaattc	7920
ttgcggagaa	ctgtgaatgc	gcaaaccaac	ccttggcaga	acatatccat	cgcgctcgcc	7980
atctccagca	gcccgcacgcg	gcgcactctcg	ggcagctgtg	ggtcctggcc	acgggtgcgc	8040
atgatcgtgc	tcctgtcggt	gaggacccgg	ctaggctggc	ggggttgcct	tactgggttag	8100

cagaatgaat	caccgatacg	cgagcgaacg	tgaagcgact	gctgctgcaa	aacgtctcg	8160
acctgagcaa	caacatgaat	ggtcttcggt	ttccgtgttt	cgtaaagtct	ggaaacgcgg	8220
aagtgcgcgc	cctgcacccat	tatgttcggt	atctgcatcg	caggatgctg	ctggctaccc	8280
tgtggaacac	ctacatctgt	attaacgaag	cgctggcatt	gacctgagt	gatttttctc	8340
tggtcccgc	gcatccatac	cgccagttgt	ttaccctcac	aacgttccag	taaccgggca	8400
tgttcatcat	cagtaacccg	tatcgtgagc	atcctctctc	gtttcatcgg	tatcattacc	8460
cccatgaaca	gaaattcccc	cttacacgga	ggcatcaagt	gaccaaacag	gaaaaaacccg	8520
cccttaacat	ggcccgcttt	atcagaagcc	agacattaac	gcttctggag	aaactcaacg	8580
agctggacgc	ggatgaacag	gcagacatct	gtgaatcgct	tcacgaccac	gctgatgagc	8640
tttaccgcag	ctgcctcgcg	cgtttcggtg	atgacgggtg	aaacctctga	cacatgcagc	8700
tcccggagac	ggtcacagct	tgtctgtaag	cggatgccgg	gagcagacaa	gcccgtcagg	8760
gcgcgtcagc	gggtgttggc	gggtgtcggg	gcgcagccat	gacctagtca	cgtagcgata	8820
gcggagtgt	tactggctta	actatgcggc	atcagagcag	attgtactga	gagtgcacca	8880
tatgcggtgt	gaaataccgc	acagatgcgt	aaggagaaaa	taccgcatca	ggcgctcttc	8940
cgcttcctcg	ctcactgact	cgctgcgctc	ggtcggtcgg	ctgcggcgag	cggtatcagc	9000
tcactcaaag	gcggtaatat	ggttatccac	agaatcaggg	gataacgcag	gaaagaacat	9060
gtgagcaaaa	ggccagcaaa	aggccaggaa	ccgtaaaaag	gccgcgttgc	tggcggtttt	9120
ccataggctc	cgccccctg	acgagcatca	caaaaatcga	cgctcaagtc	agagggtggcg	9180
aaacccgaca	ggactataaa	gataccaggc	gtttccccct	ggaagctccc	tcgtgcgctc	9240
tccgtgtccg	accctgccgc	ttaccggata	cctgtccgcc	tttctccctt	cgggaaagcgt	9300
ggcgctttct	caatgctcac	gctgtaggta	cttcagttcg	gtgtaggtcg	ttcgctccaa	9360
gctgggctgt	gtgcacgaac	cccccgttca	gcccagccgc	tgcgccttat	ccggtaaacta	9420
tcgtcttgag	tccaacccgg	taagacacga	cttatcgcca	ctggcagcag	ccactggtaa	9480
caggattagc	agagcgaggt	atgtaggcgg	tgctacagag	ttcttgaagt	ggtggcctaa	9540
ctacggctac	actagaagga	cagtatttgg	tatctgcgct	ctgctgaagc	cagttacctt	9600
cggaaaaaga	gttggtagct	cttgatccgg	caaacaaacc	accgctggta	gcggtggttt	9660
ttttgtttgc	aagcagcaga	ttacgcgcag	aaaaaaagga	tctcaagaag	atcctttgat	9720
cttttctacg	gggtctgacg	ctcagtggaa	cgaaaactca	cgtaaaggga	ttttggtcat	9780
gagattatca	aaaaggatct	tcacctagat	ccttttaaat	taaaaatgaa	gttttaaatc	9840
aatctaaagt	atatatgagt	aaacttggtc	tgacagttac	caatgcttaa	tcagtgaggc	9900
acctatctca	gcgatctgtc	tatttcgttc	atccatagtt	gcctgactcc	ccgtcgtgta	9960
gataactacg	atacgggagg	gcttaccatc	tggccccagt	gctgcaatga	taccgcgaga	10020
cccacgctca	ccggctccag	atttatcagc	aataaaccag	ccagccggaa	gggccgagcg	10080
cagaagtgg	cctgcaactt	tatccgcctc	catccagtct	attaattgtt	gccgggaagc	10140
tagagtaagt	agttcgccag	ttaatagttt	gcgcaacggt	gttgccattg	ctgcaggcat	10200
cgtgtgtca	cgctcgctcg	ttggtagggc	ttcattcagc	tccggttccc	aacgatcaag	10260
gcgagttaca	tgatcccca	tgttgtgcaa	aaaagcggtt	agctccttcg	gtcctccgat	10320
cgttgtcaga	agtaagtgg	ccgcagtgtt	atcactcatg	gttatggcag	cactgcataa	10380
ttctcttact	gtcatgccat	ccgtaagatg	cttttctgtg	actggtgagt	actcaaccaa	10440
gtcattctga	gaatagtgt	tgccggcgacc	gagttgctct	tgcccggcgt	caacacggga	10500
taataccgcg	ccacatagca	gaactttaaa	agtgtctatc	attggaaaac	gttcttcggg	10560
gcgaaaaact	tcaaggatct	taccgctggt	gagatccagt	tcgatgtaac	ccactcgtgc	10620
acccaactga	tcttcagcat	cttttacttt	caccagcggt	tctgggtgag	caaaaacagg	10680
aaggcaaaa	gccgcaaaaa	agggaaataag	ggcgacacgg	aaatggtgaa	tactcatact	10740
cttccttttt	caatattatt	gaagcattta	tcagggttat	tgtctcatga	gcggatacat	10800
atttgaatgt	atttagaaaa	ataaaciaaat	aggggttccg	cgcacatttc	cccgaaaagt	10860
gccacctgac	gtctaagaaa	ccattatttat	catgacatta	acctataaaa	ataggcgat	10920
cacgaggccc	tttcgtcttc	aagaattctt	atcatgacat	taacctataa	aaataggcgt	10980
atcacgaggc	cctttcgta	tcatacaataa	tataccttat	tttgattga	agccaatatg	11040
ataatgagg	ggtggagttt	gtgacgtggc	gcggggcggtg	ggaacggggc	gggtgacgta	11100
gtagtgtggc	ggaagtgtga	tgttgcaagt	gtggcggaac	acatgtaagc	gccggatgtg	11160
gtaaaagtga	cgtttttgg	gtgcgccggt	gtatacggga	agtgacaatt	ttcgcgcggt	11220
tttagcgga	tgtttagta	aatttggggc	taaccaagta	atggttgcc	attttcgcg	11280
gaaaactgaa	taagaggga	tgaaatctga	ataattctgt	gttactcata	gcgcgtaata	11340
tttgtctagg	gccgcgggga	ctttgaccgt	ttacgtggag	actcgcccag	gtgtttttct	11400
cagggtgttt	ccgcgttccg	ggtcaaaagt	ggcggtttat	tattatagtc	agctctag	11458

<210> 3
<211> 11453
<212> DNA
<213> Artificial Sequence

<220>
<223> Adenoviral expression plasmid pShuttle.3r.hscIL-12 for regulated
expression of human IL-12 following virus generation using AdEasy

<220>
<221> gene
<222> (327)..(713)
<223> VP16

<220>
<221> gene
<222> (714)..(1352)
<223> TetR

<220>
<221> Intron
<222> (1353)..(1912)
<223>

<220>
<221> promoter
<222> (1864)..(1902)
<223> TK-min

<220>
<221> protein_bind
<222> (1913)..(2212)
<223> TetO7

<220>
<221> misc_feature
<222> (2213)..(2709)
<223> CMV-min + Intron

<220>
<221> promoter
<222> (2226)..(2264)
<223> CMV-min

<220>
<221> gene
<222> (2710)..(4308)
<223> Human single-chain IL-12

<220>
<221> mutation
<222> (4020)..(4023)
<223> T/C, A/T, G/C, T/G

<400> 3
ctgctggttc tttccgcctc agaagccata gagcccaccg catccccagc atgcctgcta 60
ttgtcttccc aatcctcccc cttgctgtcc tgccccaccc cccccccagc aatagaatga 120
cacctactca gacaatgcga tgcaatttcc tcattttatt aggaaaggac agtgggagtg 180

gcaccttcca	gggtcaagga	aggcacgggg	gagggggcaaa	caacagatgg	ctgggcaacta	240
gaaggcacag	tcgaggctga	tcagcgagct	ctagcatttta	ggtgacacta	tagaataggg	300
ccctctagga	tcgatcctcg	cgccccctac	ccaccgtact	cgtcaattcc	aagggcacgc	360
gtaaacaatct	gctcaaactc	gaagtcggcc	atatccagag	cgccgtaggg	ggcggagtcg	420
tggggggtaa	atcccggaac	cggggaatcc	ccgtccccc	acatgtccag	atcgaaatcg	480
tctagcgct	cggcatgctc	catcgccacg	tcctcgccgt	ctaagtggag	ctcgtccccc	540
aggctgacat	cggtcggggg	ggccgtggac	agtctgcgcg	tgtgtcccg	ggggagaaag	600
gacaggcgcg	gagccgccag	ccccgcctct	tcggggggcgt	cgctcgtccg	gagatcgagc	660
aggccctcga	tggtagaccc	gtaattgttt	ttcgtacgcg	cgcggtctga	cgcggaacca	720
ctttcacatt	taagttgttt	ttctaattccg	catatgatca	attcaaggcc	gaataagaag	780
gctggctctg	caccttggtg	atcaaataat	tcgatagctt	gtcgtataaa	tggcggcata	840
ctatcagtag	taggtgtttc	cctttcttct	ttagcgactt	gatgctcttg	atcttccaat	900
acgcaaccta	aagtaaaatg	ccccacagcg	ctgagtgcac	ataatgcatt	ctctagttaa	960
aaaccttggt	ggcataaaaa	ggctaattga	ttttcgagag	tttcatactg	tttttctgta	1020
ggccgtgtac	ctaaatgtac	ttttgctcca	tcgcgatgac	ttagtaaagc	acatctaaaa	1080
cttttagcgt	tattacgtaa	aaaatcttgc	cagctttccc	cttctaaagg	gcaaaagtga	1140
gtatggtgcc	tatctaactc	ctcaatggct	aaggcgctga	gcaaagcccg	cttatttttt	1200
acatgccaat	acaatgtagg	ctgctctaca	cctagcttct	gggcgagttt	acgggtgtgt	1260
aaaccttcga	ttccgacctc	attaagcagc	tctaattgcg	tgttaatcac	tttactttta	1320
tctaactctag	agggctctgg	tctctttggc	atggtcgaat	taattcgcgt	cgagccggcc	1380
gcgggtacaa	ttccggttgg	acctgggagt	ggacacctgt	ggagagaaag	gcaaagtgga	1440
tgtcattgtc	actcaagtgt	atggccagat	ctcaagcctg	ccacacctca	agcttgacaa	1500
caaaaagatt	gtcttttctg	accagatgga	cgcgccacc	ctcaaaggca	tcaccgcggg	1560
ccaggtgaat	atcaaactct	cctcgttttt	ggaaactgac	aatcttagcg	cagaagtcac	1620
gcccgttttt	gagagggagt	actcacccca	acagtcgaga	ggttttccga	tcgggtcgat	1680
gcggactcgc	tcaggtccct	cggtggcgga	gtaccgttcg	gaggccgacg	ggtttccgat	1740
ccaagagtac	tggaaagacc	gcgaagagtt	tgtcctcaac	cgcgagccca	acaggcgctc	1800
aagcttgatg	ggtcgctcgg	tgttcgaggc	cacacgcgtc	accttaatat	gcgaagtgga	1860
cctcggaacc	cgccgccccg	actgcatctg	cgtgttcgaa	ttgcccggcg	agctcgactt	1920
tcacttttct	ctatcactga	tagggagtgg	taaactcgac	tttcaacttt	ctctatcact	1980
gatagggagt	ggtaaactcg	actttcactt	ttctctatca	ctgataggga	gtggtaaact	2040
cgactttcac	ttttctctat	cactgatagg	gagtggtaaa	ctcgactttc	acttttctct	2100
atcactgata	gggagtggta	aactcgactt	tcacttttct	ctatcactga	tagggagtgg	2160
taaactcgac	tttcaacttt	ctctatcact	gatagggagt	ggtaaaactc	acggtcgagg	2220
gtcagtagag	cgtgtacggg	gggagggccta	tataagcaga	gctcgtttag	tgaaccgtca	2280
gatcgctgg	agacgccatc	cacgctgttt	tgacctccat	agaagacacc	gggaccgatc	2340
cagcctccgc	ggccccgaat	tgcgaagcct	tattgcggta	gtttatcaca	gttaaattgc	2400
taacgcagtc	agtgtctctg	acacaacagt	ctcgaactta	agctgcagaa	gttggtcgtg	2460
aggcactggg	caggtaagta	tcaaggttac	aagacagggt	taaggagacc	aatagaaact	2520
gggcttgctg	agacagagaa	gactcttgcg	tttctgatag	gcacctattg	gtcttactga	2580
catccacttt	gcctttctct	ccacagggtg	ccactcccag	ttcaattaca	gctcttaagg	2640
ctagagtact	taatacgact	cactataggc	tagcctcgag	aattcacgcg	tggtagcgag	2700
ctcggatcca	tgggtcacca	gcagttggtc	atctcttggt	tttccctggt	ttttctggca	2760
tctcccctcg	tggccatatg	ggaactgaag	aaagatgttt	atgtcgtaga	attggattgg	2820
tatccggatg	cccctggaga	aatggtggtc	ctcacctgtg	acaccctga	agaagatggt	2880
atcacctgga	ccttggaacca	gagcagttag	gtcttaggct	ctggcaaaac	cctgaccatc	2940
caagtcaaa	agtttgga	tgctggccag	tacacctgtc	acaaaggagg	cgaggttcta	3000
agccattcgc	tcctgctgct	tcacaaaaag	gaagatggaa	tttgggtccac	tgatatttta	3060
aaggaccaga	aagaacccaa	aaataagacc	tttctaagat	gcgaggccaa	gaattattct	3120
ggacgtttca	cctgctggtg	gctgacgaca	atcagtactg	atttgacatt	cagtgtcaaa	3180
agcagcagag	gctcttctga	cccccaagg	gtgacgtgcg	gagctgctac	actctctgca	3240
gagagagtca	gaggggacaa	caaggagtat	gagtactcag	tggagtggca	ggaggacagt	3300
gcctgcccag	ctgctgagga	gagtctgccc	attgaggtca	tgggtggatgc	cgttcacaa	3360
ctcaagtatg	aaaactacac	cagcagcttc	ttcatcagg	acatcatcaa	acctgaccca	3420
cccaacaact	tgcagctgaa	gccattaaag	aattctcgcc	aggtggaggt	cagctgggag	3480
taccctgaca	cctggagtag	tccacattcc	tacttctccc	tgacattctg	cgttcagggtc	3540

cagggcaaga	gcaagagaga	aaagaaagat	agagtcttca	cggacaagac	ctcagccacg	3600
gtcatctgcc	gcaaaaatgc	cagcattagc	gtgcgggccc	aggaccgcta	ctatagctca	3660
tcttgagcg	aatgggcatc	tgtgccctgc	agtgggtggc	gtggcgggcg	atctagaaac	3720
ctccccgtg	ccactccaga	cccaggaatg	ttcccatgcc	ttcaccactc	ccaaaacctg	3780
ctgagggcgc	tcagcaacat	gctccagaag	gccagacaaa	ctctagaatt	ttacccttgc	3840
acttctgaag	agattgatca	tgaagatata	acaaaagata	aaaccagcac	agtggaggcc	3900
tgtttaccat	tggaaattaac	caagaatgag	agttgcctaa	attccagaga	gacctctttc	3960
ataactaatg	ggagttgcct	ggcctccaga	aagacctctt	ttatgatggc	cctgtgcctc	4020
tcgagtattt	atgaagactc	gaagatgtac	caggtggagt	tcaagaccat	gaatgcaaag	4080
cttctgatgg	atcctaagag	gcagatcttt	ctagatcaaa	acatgctggc	agttattgat	4140
gagctgatgc	aggccctgaa	tttcaacagt	gagactgtgc	cacaaaaatc	ctcccttgaa	4200
gaaccggatt	tttataaaa	taaaatcaag	ctctgcatac	ttcttcatgc	tttcagaatt	4260
cgggcagtg	ctattgatag	agtgatgagc	tatctgaatg	cttcctaaaa	agcgaggctg	4320
atccggatta	gtccaatttg	ttaaagacag	gatatacagt	gtccaggctc	tagttttgac	4380
tcaacaatat	caccagctga	agcctataga	gtacgagcca	tagataaaat	aaaagatttt	4440
athtagtctc	cagaaaaagg	ggggaatgaa	agacccacc	tgtaggtttg	gcaagctagt	4500
aacggccgcc	agtgtgctgg	aattctgcag	atatccatca	cactggcggc	cgctcgagca	4560
tgcactctaga	gggccctatt	ctatagtgtc	acctaaatgc	tagagctcgc	tgatcagcct	4620
cgactgtgcc	ttctagtggc	cagccatctg	ttgtttgccc	ctcccccggt	ccttccttga	4680
ccctggaagg	tgccactccc	actgtccttt	cctaataaaa	tgaggaaatt	gcatacgcat	4740
gtctgagtag	gtgtcattct	attctggggg	gtggggtggg	gcaggacagc	aagggggagg	4800
attgggaaga	caatagcagg	catgctgggg	atgcggtggg	ctctatggct	tctgaggcgg	4860
aaagaaccag	tcgactcgaa	gatctgggcg	tggttaaggg	tgggaaagaa	tatataaggt	4920
gggggtctta	tgtagttttg	tatctgtttt	gcagcagccg	ccgccgccat	gagcaccaac	4980
tcgtttgatg	gaagcattgt	gagctcatat	ttgacaacgc	gcatacccc	atgggcccgg	5040
gtgcgtcaga	atgtgatggg	ctccagcatt	gatggctgcc	ccgtcctgcc	cgaaactct	5100
actaccttga	cctacgagac	cgtgtctgga	acgccgttgg	agactgcagc	ctccgccgcc	5160
gcttcagccg	ctgcagccac	cgcccgcggg	attgtgactg	actttgcttt	cctgagcccg	5220
cttgcaagca	gtgcagcttc	ccgttcatcc	gccgcgatg	acaagttgac	ggctcttttg	5280
gcacaatttg	attctttgac	ccgggaactt	aatgtcgttt	ctcagcagct	gttggatctg	5340
cgccagcagg	tttctgccct	gaaggcttcc	tccccctcca	atgcggttta	aaacataaat	5400
aaaaaaccag	actctgtttg	gatttgatc	aagcaagtgt	cttgctgtct	ttatttaggg	5460
gttttgcgcg	cgcggtaggc	ccgggaccag	cggctctcgg	cgttgagggt	cctgtgtatt	5520
ttttccagga	cgtggtaaa	gtgactctgg	atgttcagat	acatgggcat	aagcccgctc	5580
ctgggggtga	ggtagcacca	ctgcagagct	tcatgctgcg	gggtggtgtt	gtagatgatc	5640

cagtcgtagc	aggagcgctg	ggcgtggtgc	ctaaaaatgt	ctttcagtag	caagctgatt	5700
gccaggggca	ggcccttggt	gtaagtgttt	acaaagcggg	taagctggga	tgggtgcata	5760
cgtggggata	tgagatgcat	cttgactgtt	atttttaggt	tggctatgtt	cccagccata	5820
tccctccggg	gattcatgtt	gtgcagaacc	accagcacag	tgtatccggt	gcacttgga	5880
aatttgtcat	gtagcttaga	aggaaatgcg	tggagaact	tggagacgcc	cttgtgacct	5940
ccaagatttt	ccatgcattc	gtccataatg	atggcaatgg	gccacgggc	ggcggcctgg	6000
gcgaagatat	ttctgggatc	actaacgtca	tagttgtgtt	ccaggatgag	atcgtcatag	6060
gccattttta	caaagcgcg	gcggagggtg	ccagactgcg	gtataatggt	tccatccggc	6120
ccaggggcgt	agttaccctc	acagatttgc	atttcccacg	ctttgagttc	agatgggggg	6180
atcatgtcta	cctgcggggc	gatgaagaaa	acggtttccg	gggtagggga	gatcagctgg	6240
gaagaaagca	ggttcctgag	cagctgcgac	ttaccgcagc	cggtagggcc	gtaaatcaca	6300
cctattaccg	ggtgcaactg	gtagttaaga	gagctgcagc	tgccgtcatc	cctgagcagg	6360
ggggccaact	cgtaagcat	gtccctgact	cgcatgtttt	ccctgaccaa	atccgccaga	6420
aggcgctcgc	cgcccagcga	tagcagttct	tgcaagggaag	caaagttttt	caacggtttg	6480
agaccgtccg	ccgtaggcat	gcttttgagc	gtttgaccaa	gcagttccag	gcggtcccac	6540
agctcggtea	cctgctctac	ggcatctcga	tccagcatat	ctctcgttt	cgcggttg	6600
ggcggttttc	gctgtacggc	agtagtcggt	gctcgtccag	acgggccagg	gtcatgtctt	6660
tccacgggcg	cagggctctc	gtcagcgtag	tctgggtcac	ggtgaagggg	tgcgtccgg	6720
gctgcgcgct	ggccagggtg	cgcttgaggc	tggtcctgct	ggtgctgaag	cgctgccggt	6780
cttcgccctg	cgcgtcggcc	aggtagcatt	tgacctggt	gtcatagtcc	agccctccg	6840
cggcgtggcc	cttggcgcgc	agcttgcctt	tggaggaggc	gccgcacgag	gggcagtga	6900

gactttttgag	ggcgtagagc	ttggggcgga	gaaataccga	ttccggggag	taggcattccg	6960
cgccgcagggc	cccgcagacg	gtctcgcatt	ccacgagcca	ggtgagctct	ggccggttcgg	7020
ggtcaaaaac	cagggtttccc	ccatgctttt	tgatgcggtt	cttacctctg	gtttccatga	7080
gccggtgtcc	acgctcgggtg	acgaaaaggc	tgtccgtgtc	cccgtataca	gacttgagag	7140
ggagtttaaa	cgaattcaat	agcttggtgc	atgggcgggc	atataaaatg	caaggtgctg	7200
ctcaaaaaat	caggcaaagc	ctcgcgcaaa	aaagaaagca	catcgtagtc	atgctcatgc	7260
agataaaggc	aggtaagctc	cggaaccacc	acagaaaaag	acaccatttt	tctctcaaac	7320
atgtctgcgg	gtttctgcat	aaacacaaaa	taaaataaca	aaaaaacatt	taaacattag	7380
aagcctgtct	tacaacagga	aaaacaaccc	ttataagcat	aagacggact	acggccatgc	7440
cggcgtgacc	gtaaaaaaac	tggtcaccgt	gattaaaaag	caccaccgac	agctcctcgg	7500
tcatgtccgg	agtcataatg	taagactcgg	taaacacatc	aggttgattc	atcggtcagt	7560
gctaaaaaagc	gaccgaaata	gcccggggga	atacataccc	gcaggcgtag	agacaacatt	7620
acagcccccac	taggaggtat	aacaaaatta	ataggagaga	aaaacacata	aacacctgaa	7680
aaaccctcct	gcctaggcaa	aatagcacc	tcccgcctcca	gaacaacata	cagcgcttca	7740
cagcggcagc	ctaacagtca	gccttaccag	taaaaaagaa	aacctattaa	aaaaacacca	7800
ctcgacacgg	caccagctca	atcagtcaca	gtgtaaaaaa	gggccaagtg	cagagcgagt	7860
atatatagga	ctaaaaaatg	acgtaacgg	taaagtccac	aaaaaacacc	cagaaaaccg	7920
cacgcgaacc	tacgcccaga	aacgaaagcc	aaaaaaccca	caacttctc	aatcgtcac	7980
ttccggtttc	ccacgttacg	taacttccca	ttttaagaaa	actacaattc	ccaacacata	8040
caagttactc	cgcctataaa	cctacgtcac	ccgcccgggt	cccacgcccc	gcgccacgtc	8100
acaaactcca	ccccctcatt	atcatattgg	cttcaatcca	aaataaggta	tattattgat	8160
gatgttaatt	aacatgcatg	gatccatag	cgggtgtgaa	taccgcacag	atgcgtaagg	8220
agaaaatacc	gcacagggcg	ctcttccgct	tcctcgtcca	ctgactcgtc	gcgctcggtc	8280
gttcggctgc	ggcgagcggg	atcagctcac	tcaaaggcgg	taatacgggt	atccacagaa	8340
tcaggggata	acgcaggaaa	gaacatgtga	gcaaaaggcc	agcaaaaggc	caggaaccgt	8400
aaaaaggccg	cgttgctggc	gtttttccat	aggctccgcc	cccctgacga	gcatacaaaa	8460
aatcgacgct	caagtacag	gtggcgaaac	ccgacaggac	tataaagata	ccaggcggtt	8520
ccccctggaa	gctccctcgt	gcgctctcct	gttccgaccc	tgccgcttac	cggatacctg	8580
tccgcctttc	tcccttcggg	aagcgtggcg	ctttctcata	gctcacgctg	taggtatctc	8640
agttcgggtg	aggctcgttcg	ctccaagctg	ggctgtgtgc	acgaaccccc	cgttcagccc	8700
gaccgctgcg	ccttatccgg	taactatcgt	cttgagtcca	acccggtaag	acacgactta	8760
tcgccactgg	cagcagccac	tggtaacagg	attagcagag	cgaggatagt	aggcgggtgct	8820
acagagttct	tgaagtgggtg	gcctaactac	ggctacacta	gaaggacagt	atttggtatc	8880
tgcgctctgc	tgaagccagt	taccttcgga	aaaagagttg	gtagctcttg	atccggcaaa	8940
caaaccaccg	ctggtagcgg	tggttttttt	gtttgcaagc	agcagattac	gcgcagaaaa	9000
aaagatctc	aagaagatcc	tttgatcttt	tctacggggg	ctgacgctca	gtggaacgaa	9060
aactcacgtt	aagggaattt	ggtcatgaga	ttatcaaaaa	ggatcttcac	ctagatcctt	9120
ttaaattaaa	aatgaagttt	taaatcaatc	taaagtatat	atgagtaaac	ttggtctgac	9180
agttaccaat	gcttaatcag	tgaggcacct	atctcagcga	tctgtctatt	tcgttcatcc	9240
atagttgcct	gactccccgt	cgtgtagata	actacgatac	gggagggctt	accatctggc	9300
cccagtgtcg	caatgatacc	gcgagaccca	cgctcaccgg	ctccagattt	atcagcaata	9360
aaccagccag	ccggaagggc	cgagcgcaga	agtggctcctg	caactttatc	cgctccatc	9420
cagtctatta	attgttgccg	ggaagctaga	gtaagtagtt	cgccagttaa	tagtttgccg	9480
aacgttggtg	ccattgctgc	agccatgaga	ttatcaaaaa	ggatcttcac	ctagatcctt	9540
ttcacgtaga	aagccagtcc	gcagaaacgg	tgctgacccc	ggatgaatgt	cagctactgg	9600
gctatctgga	caagggaaaa	cgcaagcgca	aagagaaagc	aggtagcttg	cagtgggctt	9660
acatggcgat	agctagactg	ggcggtttta	tggacagcaa	gcgaaccgga	attgccagct	9720
ggggcgccct	ctggtaagggt	tgggaagccc	tgcaaagttaa	actggatggc	tttctcgccg	9780
ccaaggatct	gatggcgag	gggatcaagc	tctgatcaag	agacaggatg	aggatcgttt	9840
cgcatgattg	aacaagatgg	attgcacgca	ggttctccgg	ccgcttgggt	ggagaggcta	9900
ttcggctatg	actgggcaca	acagacaatc	ggctgctctg	atgccgccgt	gttccggctg	9960
tcagcgcagg	ggcgcccggg	tctttttgtc	aagaccgacc	tgtccgggtc	cctgaatgaa	10020
ctgcaagacg	aggcagcgcg	gctatcgtgg	ctggccacga	cgggcggttc	ttgcgcagct	10080
gtgctcgacg	ttgtcactga	agcgggaagg	gactggctgc	tattgggcga	agtgcggggg	10140
caggatctcc	tgtcatctca	ccttgctcct	gccgagaaag	tatccatcat	ggctgatgca	10200
atgcggcggc	tgcatacgct	tgatccggct	acctgcccat	tcgaccacca	agcgaaacat	10260
cgcacgcagc	gagcacgtac	tcggatggaa	gccggtcttg	tcgatcagga	tgatctggac	10320

```

gaagagcatc aggggctcgc gccagccgaa ctgttcgcca ggctcaaggc gagcatgccc 10380
gacggcgagg atctcgtcgt gacccatggc gatgcctgct tgccgaatat catggtggaa 10440
aatggccgct tttctggatt catcgactgt ggccggctgg gtgtggcgga ccgctatcag 10500
gacatagcgt tggctacccg tgatattgct gaagagcttg gcggcgaatg ggctgaccgc 10560
ttcctcgtgc tttacgggat cgccgctccc gattcgcagc gcatcgctt ctatcgctt 10620
cttgacgagt tcttctgaat tttgttaaaa tttttgttaa atcagctcat tttttaacca 10680
ataggccgaa atcggcaaca tcccttataa atcaaaagaa tagaccgga tagggttgag 10740
tggtgttcca gtttgaaca agagtccact attaaagaac gtggactcca acgtcaaagg 10800
gcaaaaaacc gtctatcagg gcgatggccc actacgtgaa ccatcaccca aatcaagttt 10860
tttgcggtcg aggtgccgta aagctctaaa tcggaaccct aaaggagacc cccgatttag 10920
agcttgacgg ggaaagccgg cgaacgtggc gagaaaggaa gggaagaaag cgaaaggagc 10980
ggcgctagg gcgctggcaa gtgtagcggc cacgctgcgc gtaaccacca caccgcgcg 11040
cttaatgcgc cgctacagg cgctccatt cgccattcag gatcgaatta attcttaagt 11100
ttttbtaaca tcatcaataa tataccttat tttgattga agccaatatg ataatgaggg 11160
ggtggagttt gtgacgtggc gcggggcggt ggaacggggc gggtgacgta gtagtggtgc 11220
ggaagtgtga tgttgcaagt gtggcggaac acatgtaagc gacggatgtg gcaaaagtga 11280
cgtttttggg gtgcgccggg gtacacagga agtgacaatt ttcgcgcggg tttaggcgga 11340
tgttgtagta aatttgggcg taaccgagta agatttggcc attttcgcgg gaaaactgaa 11400
taagaggaag tgaaatctga ataattttgt gttactcata gcgcgtaata ctg 11453

```

<210> 4

<211> 9784

<212> DNA

<213> Artificial

<220>

<223> Adenoviral expression plasmid pAd.3r for regulated expression

<220>

<221> gene

<222> (327)..(713)

<223> VP16

<220>

<221> gene

<222> (714)..(1352)

<223> TetR

<220>

<221> Intron

<222> (1353)..(1912)

<223>

<220>

<221> promoter

<222> (1864)..(1902)

<223> TK-min

<220>

<221> protein_bind

<222> (1913)..(2212)

<223> TetO7

<220>

<221> misc_feature

<222> (2213)..(2709)

<223> CMV-min + Intron

<220>

<221> promoter

<222> (2226)..(2264)

<223> CMV-min

<220>

<221> multiple cloning site

<222> (2669)..(2770)

<223> NheI, XhoI, KpnI, BamHI, SpeI, EcoRV, NotI, XhoI

<400> 4

ctgctggttc	tttccgcctc	agaagccata	gagcccaccg	catccccagc	atgcctgcta	60
ttgtcttccc	aatcctcccc	cttgctgtcc	tgccccaccc	cacccccag	aatagaatga	120
cacctactca	gacaatgcga	tgcaatttcc	tcatttttatt	aggaaaggac	agtgggagt	180
gcaccttcca	gggtcaaggja	aggcacgggg	gaggggcaaa	caacagatgg	ctggcaacta	240
gaaggcacag	tcgaggtcga	tcagcgagct	ctagcattta	ggtgacacta	tagaatagg	300
ccctctagga	tcgatcctcg	cgccccctac	ccaccgtact	cgtcaattcc	aagggcacgc	360
gtaaacaactc	gctcaaaactc	gaagtcggcc	atatccagag	cgccgtagg	ggcggagtgc	420
tggggggtaa	atcccggacc	cggggaatcc	ccgtcccca	acatgtccag	atcgaaatcg	480
tctagcgcgt	cggcatgcgc	catcgccacg	tcctcgccgt	ctaagtggag	ctcgtcccc	540
aggctgacat	cggtcggggg	ggcgtggac	agtctgcgcg	tgtgtccgc	ggggagaaag	600
gacaggcgcg	gagccgccag	ccccgcctct	tcgggggcgt	cgtcgtccg	gagatcgagc	660
aggccctcga	tggtagacc	gtaattgttt	ttcgtacgcg	cgcggtgta	cgcgaccaca	720
ctttcacatt	taagttgttt	ttctaattccg	catatgatca	attcaaggcc	gaataagaag	780
gctggctctg	caccttggtg	atcaaataat	tcgatagctt	gtcgtataaa	tggcggcata	840
ctatcagtag	taggtgtttc	cctttcttct	ttagcgactt	gatgctcttg	atcttccaat	900
acgcaaccta	aagtaaaatg	ccccacagcg	ctgagtgcac	ataatgcatt	ctctagtga	960
aaaccttggt	ggcataaaaa	ggctaattga	ttttcgagag	tttcatactg	tttttctgta	1020
ggcgtgtac	ctaaatgtac	ttttgtccca	tcgcgatgac	ttagtaaagc	acatctaaaa	1080
cttttagcgt	tattacgtaa	aaaatcttgc	cagctttccc	cttctaaagg	gcaaaagtga	1140
gtatggtgcc	tatctaact	ctcaatggct	aaggcgctga	gcaaagccc	cttatttttt	1200
acatgccaat	acaatgtagg	ctgctctaca	cctagcttct	gggcgagttt	acgggttggt	1260
aaaccttcga	ttccgacctc	attaagcagc	tctaattgcg	tgtaatacac	tttactttta	1320
tctaactcga	agggctggg	tctctttggc	atggtcgaat	taattcgcgt	cgagccggcc	1380
gcgggtacaa	ttccggttgg	acctgggagt	ggacacctgt	ggagagaaa	gcaaagtgg	1440
tgtcattgtc	actcaagtgt	atggccagat	ctcaagcctg	ccacacctca	agcttgacaa	1500
caaaaagatt	gtcttttctg	accagatgga	cgcgccacc	ctcaaaggca	tcaccgcggg	1560
ccaggtgaat	atcaaactct	cctcgttttt	ggaaactgac	aatcttagcg	cagaagtcac	1620
gcccgttttt	gagagggagt	actcacccca	acagtcgaga	ggttttccga	tccggtcgat	1680
gcggactcgc	tcaggtccct	cggtggcgga	gtaccgttcg	gaggccgacg	ggtttccgat	1740
ccaagagtac	tggaaagacc	gcgaagagtt	tgtcctcaac	cgcgagccca	acaggcgctc	1800
aagcttgatg	ggtcgcctcg	tggtcgaggc	cacacgcgtc	accttaatat	gcgaagtgg	1860
cctcgaccgc	cgccgccccg	actgcatctg	cgtgttcgaa	ttgcccggcg	agctcgactt	1920
tcacttttct	ctatcactga	tagggagtgg	taaactcgac	tttacttttt	ctctatcact	1980
gatagggagt	ggtaaactcg	actttcactt	ttctctatca	ctgataggga	gtggtaaact	2040
cgactttcac	ttttctctat	cactgatagg	gagtggtaaa	ctcgactttc	acttttctct	2100
atcactgata	gggagtggta	aactcgactt	tcacttttct	ctatcactga	tagggagtgg	2160
taaactcgac	tttacttttt	ctctatcact	gatagggagt	ggtaaactcg	acggtcgagg	2220
gtcgagtagg	cgtgtacggg	gggaggccta	tataagcaga	gctcgtttag	tgaaccgtca	2280
gatcgctcgc	agacgccatc	cacgctgttt	tgacctccat	agaagacacc	gggaccgatc	2340
cagcctccgc	ggccccgaat	tgcaagcttt	tattgcggta	gtttatcaca	gttaaattgc	2400
taacgcagtc	agtgttctcg	acacaacagt	ctcgaactta	agctgcagaa	gttggtcgtg	2460
aggcactggg	caggtaaagta	tcaaggttac	aagcaggttt	taaggagacc	aatagaaact	2520
gggcttgcgc	agacagagaa	gactcttgcg	tttctgatag	gcacctattg	gtcttactga	2580
catccacttt	gccttttctct	ccacaggtgt	ccactcccag	ttcaattaca	gctcttaagg	2640

ctagagtact	taatacgact	cactataggc	tagcctcgag	aattcacgcg	tggtagccgag	2700
ctcggatcca	ctagtaacgg	ccgccagtgt	gctggaattc	tgcagatata	catcacactg	2760
gcggccgctc	gagcatgcat	ctagagggcc	ctattctata	gtgtcaccta	aatgctagag	2820
ctcgtcgatc	agcctcgact	gtgccttcta	gttgccagcc	atctgttggt	tgcctctccc	2880
ccgtgccttc	cttgaccctg	gaaggtgcc	ctccactgt	cctttcctaa	taaaatgagg	2940
aaattgcata	gcattgtctg	agtaggtgtc	attctattct	ggggggtggg	gtggggcagg	3000
acagcaaggg	ggaggattgg	gaagacaata	gcaggcatgc	tggggatgag	gtgggctcta	3060
tggcttctga	ggcggaagga	accagtcgac	atcgatgcta	gagtgggaag	tgctgaggtg	3120
cgatgagacc	cgcaccaggt	gcagaccctg	cgagtgtggc	ggtaaacata	ttaggaacca	3180
gcctgtgatg	ctggatgtga	ccgaggagct	gaggcccgat	cacttgggtg	tggcctgcac	3240
ccgcgtgag	tttggctcta	gcgatgaaga	tacagattga	ggtagtgaaa	tgtgtgggag	3300
tggcttaagg	gtgggaaaga	atatataagg	tgggggtctt	atgtagtttt	gtatctgttt	3360
tgcagcagcc	gccgccgcca	tgagcaccac	ctcgtttgat	ggaagcattg	tgagctcata	3420
tttgacaacg	cgcatgcccc	catgggcccg	ggtgcgtcag	aatgtgatgg	gctccagcat	3480
tgatggtcgc	cccgtcctgc	ccgcaaaact	tactaccttg	acctacgaga	ccgtgtctgg	3540
aacgccgttg	gagactgcag	cctccgcccg	cgcttcagcc	gctgcagcca	ccgcccgcgg	3600
gattgtgact	gactttgctt	tcctgagccc	gcttgcaagc	agtgcagctt	cccgttcctc	3660
cgcccgcat	gacaagttga	cggtcttttt	ggcacaattg	gattctttga	cccgggaact	3720
taatgtcggt	tctcagcagc	tggtggtatc	gcgccagcag	gtttctgccc	tgaaggcttc	3780
ctccctccc	aatgcggttt	aaaacataaa	taaaaaacca	gactctgttt	ggatttggat	3840
caagcaagtg	tctgtctgtc	tttatttagg	ggttttgccg	gcgcggtagg	cccgggacca	3900
gcgtctcgg	tcgttgaggg	tcctgtgtat	tttttccagg	acgtggtaaa	ggtgactctg	3960
gatgttcaga	tacatgggca	taagcccgtc	tctgggggtg	aggtagcacc	actgcagagc	4020
ttcatgctgc	gggggtggtg	tgtagatgat	ccagtcgtag	caggagcgct	gggctggtg	4080
cctaaaaatg	tctttcagta	gcaagctgat	tgccaggggc	aggcccttgg	tgtaagtgtt	4140
tacaaagcgg	ttaagctggg	atgggtgcat	acgtggggat	atgagatgca	tcttggactg	4200
tatttttagg	ttggctatgt	tcccagccat	atccctccgg	ggattcatgt	tgtgcagaac	4260
caccagcaca	gtgtatccgg	tgactttggg	aaatttgtca	tgtagcttag	aaggaaatgc	4320
gtggaagaac	ttggagacgc	ccttgtgacc	tccaagattt	tccatgcatt	cgtccataat	4380
gatggcaatg	ggcccacggg	cgccggcctg	ggcgaagata	tttctgggat	cactaacgtc	4440
atagttgtgt	tccaggatga	gatcgtcata	ggccattttt	acaaagcgcg	ggcggagggt	4500
gccagactgc	ggtataatgg	ttccatccgg	cccagggggc	tagttaccct	cacagatttg	4560
catttcccac	gctttgagtt	cagatggggg	gatcatgtct	acctgcgggg	cgatgaagaa	4620
aacggtttcc	ggggtagggg	agatcagctg	ggaagaaaag	aggttcctga	gcagctgcga	4680
cttaccgcag	ccggtggggc	cgtaaatcac	acctattacc	gggtgcaact	ggtagttaag	4740
agagctgcag	ctgccgtcat	ccctgagcag	gggggccact	tcgttaagca	tgtccctgac	4800
tcgcatgttt	tccctgacca	aatccgccag	aaggcctcgc	ccgccagcgc	atagcagttc	4860
ttgcaaggaa	gcaaagtttt	tcaacgggtt	gagaccgtcc	gccgtaggca	tgcttttgag	4920
cgtttgacca	agcagttcca	ggcgggtcca	cagctcggtc	acctgctcta	cggtatctcg	4980
atccagcata	tctcctcggt	tcgcgggttg	gggcggcttt	cgctgtacgg	cagtagtcgg	5040
tgctcgcca	gacgggccag	ggtcatgtct	ttccacgggc	gcagggtcct	cgtagcagta	5100
gtctgggtca	cggtgaaggg	gtgcgctccg	ggctgcgcgc	tggccagggt	gcgcttgagg	5160
ctggtcctgc	tgggtgctgaa	gcgctgccgg	tcttcgccct	gcgcgtcggc	caggtagcat	5220
ttgaccatgg	tgtcatagtc	cagccccctc	gcggcgtggc	ccttggcgcg	cagcttgccc	5280
ttggaggagg	cgccgcacga	ggggcagtcg	agacttttga	gggcgtagag	cttgggcgcg	5340
agaaataacc	attccgggga	gtaggcatcc	gcgccgcagg	ccccgcagac	ggtctcgcat	5400
tccacgagcc	aggtgagctc	tggccgttcg	gggtcaaaaa	ccagggtttc	cccatgcttt	5460
ttgatgcgtt	tcttacctct	ggtttccatg	agccgggtgt	cacgctcggt	gacgaaaagg	5520
ctgtccgtgt	ccccgtatac	agacttgaga	ggcctgtcct	cgaccgatgc	ccttgagagc	5580
cttcaaccca	gtcagctcct	tccggtgggc	gcggggcatg	actatcgctg	ccgcacttat	5640
gactgtcttc	tttatcatgc	aactcgtagg	acaggtgccg	gcagcgctct	gggtcatttt	5700
cggcgaggac	cgctttcgct	ggagcgcgac	gatgatcggc	ctgtcgcttg	cggtattcgg	5760
aatcttgca	gccctcgctc	aagccttcgt	cactgggtcc	gccaccaaac	gtttcggcga	5820
gaagcaggcc	attatcgccg	gcagggcggc	cgacgcgctg	ggctacgtct	tgctggcggt	5880
cgcgacgcga	ggctggatgg	ccttccccat	tatgattctt	ctcgcttcgg	gcggcatcgg	5940
gatgcccgcg	ttgcaggcca	tgctgtccag	gcaggtagat	gacgaccatc	agggacagct	6000
tcaaggatcg	ctcgcggctc	ttaccagcct	aacttcgata	actggaccgc	tgatcgctcac	6060

ggcgatttat	gccgcctcgg	cgagcacatg	gaacgggttg	gcatggattg	taggcgccgc	6120
cctatacctt	gtctgcctcc	ccgcgttgcg	tcgcggtgca	tggagccggg	ccacctcgac	6180
ctgaatggaa	gccggcggca	cctcgctaac	ggattcacca	ctccaagaat	tggagccaat	6240
caattcttgc	ggagaactgt	gaatgcgcaa	accaaccctt	ggcagaacat	atccatcgcg	6300
tcgcctatct	ccagcagccg	cacgcggcgc	atctcgggca	gcgttgggtc	ctggccacgg	6360
gtgcgcgatg	tcgtgtcctt	gtcgttgagg	acccggctag	gctggcgggg	ttgccttact	6420
ggttagcaga	atgaatcacc	gatacgcgag	cgaacgtgaa	gcgactgctg	ctgcaaaacg	6480
tctgcgacct	gagcaacaac	atgaatggtc	ttcggtttcc	gtgtttcgtg	aagtctggaa	6540
acgcggaagt	cagcgccctg	caccattatg	ttccggatct	gcategcagg	atgctgctgg	6600
ctaccctgtg	gaacacctac	atctgtatta	acgaagcgct	ggcattgacc	ctgagtgttt	6660
tttctctggt	cccgcgcgat	ccataccgcc	agttgtttac	cctcacaacg	ttccagtaac	6720
cgggcatggt	catcatcagt	aacccgatat	gtgagcatcc	tctctcgttt	catcggtatc	6780
attaccccca	tgaacagaaa	ttccccctta	cacggaggca	tcaagtgacc	aaacaggaaa	6840
aaaccgccct	taacatggcc	cgcttttatca	gaagccagac	attaacgctt	ctggagaaaac	6900
tcaacgagct	ggacgcggat	gaacaggcag	acatctgtga	atcgcttcac	gaccacgctg	6960
atgagcttta	ccgcagctgc	ctcgcgcggt	tcggtgatga	cggtgaaaac	ctctgacaca	7020
tgcagctccc	ggagacggtc	acagcttgct	tgtaaagcga	tgccgggagc	agacaagccc	7080
gtcagggcgc	gtcagcgggt	gttggcgggt	gtcggggcgc	agccatgacc	cagtcacgta	7140
gcgatagcgg	agtgtatact	ggcttaacta	tgcggcatca	gagcagattg	tactgagagt	7200
gcaccatatg	cggtgtgaaa	taccgcacag	atgcgtaagg	agaaaatacc	gcatcaggcg	7260
ctcttcgcgt	tcctcgcgtc	ctgactcgct	cgcttcgggt	gttcggctgc	ggcgagcggg	7320
atcagctcac	tcaaaggcgg	taatacgggt	atccacagaa	tcaagggata	acgcaggaaa	7380
gaacatgtga	gcaaaaggcc	agcaaaaggc	caggaaaccgt	aaaaaggccg	cgttgctggc	7440
gtttttccat	aggctccgcc	cccctgacga	gcatcacaaa	aatcgacgct	caagtcagag	7500
gtggcgaaac	ccgacaggac	tataaagata	ccaggcggtt	ccccctggaa	gctccctcgt	7560
gcgctctcct	gttcgcaccc	tgcgcgttac	cggatacctg	tccgcctttc	tcccttcggg	7620
aagcgtggcg	ctttctcaat	gtcacgctg	taggtatctc	agttcggtgt	aggtcggttcg	7680
ctccaagctg	ggctgtgtgc	acgaaccccc	cgttcagccc	gaccgctgcg	ccttatccgg	7740
taactatcgt	cttgagtcca	acccggtaag	acacgactta	tcgccactgg	cagcagccac	7800
tggtaacagg	attagcagag	cgaggatagt	aggcgggtgt	acagagttct	tgaagtgggtg	7860
gcctaactac	ggctacacta	gaaggacagt	atcttggtatc	tgcgctctgc	tgaagccagt	7920
taccttcgga	aaaagagttg	gtagctcttg	atccggcaaa	caaaccaccg	ctggttagcgg	7980
tggttttttt	gtttgcaagc	agcagattac	gcgcagaaaa	aaaggatctc	aagaagatcc	8040
tttgatcttt	tctacggggt	ctgacgtcga	gtggaacgaa	aactcacgtt	aagggatttt	8100
ggtcatgaga	ttatcaaaaa	ggatcttcac	ctagatcctt	ttaaattaaa	aatgaagttt	8160
taaatcaatc	taaagtatat	atgagtaaac	ttggtctgac	agttaccaat	gcttaatcag	8220
tgaggcacct	atctcagcga	tctgtctatt	tcgttcattcc	atagttgcct	gactccccgt	8280
cgtgtagata	actacgatac	gggagggtct	accatctggc	cccagtgctg	caatgatacc	8340
gcgagaccca	cgctcaccgg	ctccagattt	atcagcaata	aaccagccag	ccggaagggc	8400
cgagcgcaga	agtggctctg	caactttatc	cgctccatc	cagtctatta	attgttgccg	8460
ggaagctaga	gtaagtagtt	cgccagttaa	tagtttgccg	aacgttggtg	ccattgctgc	8520
aggcatcgtg	gtgtcacgct	cgctcgtttg	tatggcttca	ttcagctccg	gttcccaacg	8580
atcaaggcga	gttacatgat	cccccatggt	gtgcaaaaaa	gcggttagct	ccttcggtcc	8640
tccgatcgtt	gtcagaagta	agttggccgc	agtggttatca	ctcatgggta	tggcagcact	8700
gcataattct	cttactgtca	tgccatccgt	aagatgcttt	tctgtgactg	gtgagtactc	8760
aaccaagtca	ttctgagaat	agtgtatgcg	gcgaccgagt	tgctcttgcc	cggcgtcaac	8820
acgggataat	accgcgccac	atagcagaac	tttaaaaagt	ctcatcattg	gaaaacgttc	8880
ttcggggcga	aaactctcaa	ggatcttacc	gctgttgaga	tccagttcga	tgtaacccac	8940
tcgtgcaccc	aactgatctt	cagcatcttt	tactttcacc	agcgtttctg	ggtgagcaaa	9000
aacaggaagg	caaaaatgccg	caaaaaaggg	aataaggggcg	acacggaaat	ggtgaatact	9060
catactcttc	ctttttcaat	attattgaag	catttatcag	ggttattgtc	tcatgagcgg	9120
atacatattt	gaatgtattt	agaaaaataa	acaaaatagg	gttccgcgca	catttccccg	9180
aaaagtgcc	cctgacgtct	aagaaaccat	tatttatcat	acattaacct	ataaaaaatg	9240
gcgtatcacg	aggccctttc	gtcttcaaga	attcttatca	tgacattaac	ctataaaaaat	9300
aggcgtatca	cgaggccctt	tcgtcatcat	caataatata	ccttattttg	gattgaagcc	9360
aatatgataa	tgaggggggtg	gagttttgtga	cgtggcgcg	ggcgtgggaa	cggggcgggg	9420
gacgtagtag	tgtggcgga	gtgtgatgtt	gcaagtgtgg	cggaacacat	gtaagcgccg	9480

```
gatgtggttaa aagtgacgtt tttggtgtgc gccggtgtat acgggaagtg acaattttcg 9540
cgcggttttta ggcggatggt gtagtaaatt tgggcgtaac caagtaatgt ttggccattt 9600
tcgcgggaaa actgaataag aggaagtgaa atctgaataa ttctgtgtta ctcatagcgc 9660
gtaatatttg tctagggccg cggggacttt gaccgtttac gtggagactc gcccaggtgt 9720
ttttctcagg tgttttcgc gttccgggtc aaagttggcg ttttattatt atagtcagct 9780
ctag 9784
```

```
<210> 5
<211> 9668
<212> DNA
<213> Artificial
```

```
<220>
<223> Expression plasmid pShuttle.3r for regulated
expression following virus generation using AdEasy
```

```
<220>
<221> gene
<222> (327)..(713)
<223> VP16
```

```
<220>
<221> gene
<222> (714)..(1352)
<223> TetR
```

```
<220>
<221> Intron
<222> (1353)..(1912)
<223>
```

```
<220>
<221> promoter
<222> (1864)..(1902)
<223> TK-min
```

```
<220>
<221> protein_bind
<222> (1913)..(2212)
<223> TetO7
```

```
<220>
<221> misc_feature
<222> (2213)..(2709)
<223> CMV-min + Intron
```

```
<220>
<221> promoter
<222> (2226)..(2264)
<223> CMV-min
```

```
<220>
<221> multiple cloning site
<222> (2669)..(2770)
<223> NheI, XhoI, KpnI, SpeI, EcoRV, NotI, XhoI
```

```
<400> 5
```

ctgctggttc	tttccgcctc	agaagccata	gagcccaccg	catccccagc	atgcctgcta	60
ttgtcttccc	aatcctcccc	cttgcctgcc	tgccccaccc	cacccccag	aatagaatga	120
cacctactca	gacaatgcga	tgcaatttcc	tcattttatt	aggaaaggac	agtgggagt	180
gcaccttcca	gggtcaagga	aggcacggg	gaggggcaaa	caacagatgg	ctggcaacta	240
gaaggcacag	tcgaggctga	tcagcgagct	ctagcattta	ggtgacacta	tagaataggg	300
ccctctagga	tcgatcctcg	cgccccctac	ccaccgtact	cgtcaattcc	aagggcacg	360
gtaaaccatct	gctcaaactc	gaagtcggcc	atatccagag	cgccgtaggg	ggcggagtcg	420
tggggggtaa	atccccggacc	cggggaatcc	ccgtccccc	acatgtccag	atcgaaatcg	480
tctagcgcgt	cggcatgcgc	catcgccacg	tcctcgccgt	ctaagtggag	ctcgtcccc	540
aggctgacat	cggtcggggg	ggccgtcgat	agtctgcgcg	tgtgtcccg	ggggagaaag	600
gacaggcgcg	gagccgccag	ccccgcctct	tcgggggctg	cgctcgtccg	gagatcgagc	660
aggccctcga	tggtagacct	gtaattgttt	ttcgtacgcg	cgcggtctga	cgcggaacca	720
ctttcacatt	taagttgttt	ttctaattccg	catatgatca	attcaaggcc	gaataagaag	780
gctggctctg	caccttggtg	atcaaataat	tcgatagctt	gtcgtaat	tgccggcata	840
ctatcagtag	taggtgtttc	cctttcttct	ttagcgactt	gatgctctt	atcttccaat	900
acgcaacct	aagtaaaatg	ccccacagcg	ctgagtgcat	ataacgcgtt	ctctagtga	960
aaaccttggt	ggcataaaaa	ggctaattga	ttttcgagag	tttcatactg	tttttctgta	1020
ggccgtgtat	ctgaatgtac	ttttgtccca	ttgcgatgac	ttagtaaaag	acatctaaaa	1080
cttttagcgt	tattgcgtaa	aaaatcttgc	cagctttccc	cttttaaagg	gcaaaagtga	1140
gtaggtgtcc	tatctaacat	ctcaatggct	aaggcgtcga	gcaaagccc	cttatttttt	1200
acatgccaat	acagtgtagg	ctgctctaca	ccaagcttct	ggcgaggttt	acgggttgtt	1260
aaaccttcga	ttccgacctc	attaagcagc	tctaattgcg	tgtaatacac	tttactttta	1320
tctaattctag	agggtctggg	tctctttggc	atggtcgaat	taattcgcgt	cgagccggcc	1380
gcgggtacaa	ttccggttgg	acctgggagt	ggacacctgt	ggagagaaag	gcaaagtgg	1440
tgtcattgtc	actcaagtgt	atggccagat	ctcaagcctg	ccacacctca	agcttgacaa	1500
caaaaagatt	gtcttttctg	accagatgga	cgcgccacc	ctcaaaggca	tcaccgcggg	1560
ccaggtgaat	atcaaatact	cctcgttttt	ggaaactgac	aatcttagcg	cagaagtc	1620
gcccgtttt	gagagggagt	actcacccca	acagtcgaga	ggttttccga	tccggtcgat	1680
gcggactcgc	tcaggtccct	cggtggcgga	gtaccgttcg	gaggccgacg	ggtttccgat	1740
ccaagagtac	tggaaagacc	gcgaagagtt	tgtcctcaac	cgcgagccca	acaggcgtcg	1800
aagcttgatg	ggtcgctcgg	tgttcgaggc	cacacgcgtc	accttaatat	gcgaagtgg	1860
cctcggaccg	cgccgccccg	actgcactcg	cgtgttcgaa	ttgcccggcg	agctcgactt	1920
tcacttttct	ctatcactga	tagggagtgg	taaactcgac	tttactttt	ctctatcact	1980
gataggaggt	ggtaaaactcg	actttcactt	ttctctatca	ctgataggga	gtggtaaaact	2040
cgactttcac	ttttctctat	cactgatagg	gagtggtaaa	ctcgactttc	acttttctct	2100
atactgata	gggagtggta	aactcgactt	tcacttttct	ctatcactga	tagggagtgg	2160
taaaactgcac	tttactttt	ctctatcact	gataaggagt	ggtaaaactcg	acggtcgagg	2220
gtcgagtagg	cgtgtacggg	gggaggcccta	tataagcaga	gctcgttttag	tgaaccgtca	2280
gatcgctcgg	agacgccatc	cacgctgttt	tgacctccat	agaagacacc	gggaccgatc	2340
cagcctccgc	ggccccgaat	tgcaagctt	tattgcggta	gtttatcaca	gttaaattgc	2400
taacgcagtc	agtgttctg	acacaacagt	ctcgaactta	agctgcagaa	gttggtcgtg	2460
aggcactggg	caggtaagta	tcaaggttac	aagacaggtt	taaggagacc	aatagaaact	2520
gggcttgtcg	agacagagaa	gactcttgcg	tttctgatag	gcacctattg	gtcttactga	2580
catccacttt	gcctttctct	ccacaggtgt	ccactcccag	ttcaattaca	gctcttaagg	2640
ctagagtact	taatacgact	cactataggc	tagcctcgag	aattcacgcg	tggtaccgag	2700
ctcgatcca	ctagtaacgg	ccgccagtgt	gctggaattc	tgagatatc	catcacactg	2760
gcggccgctc	gagcatgcat	ctagagggcc	ctattctata	gtgtcaccta	aatgctagag	2820
ctcgctgatc	agcctcgact	gtgccttcta	gttgccagcc	atctgttgtt	tgccccctcc	2880
ccgtgccttc	cttgaccctg	gaagggtgcca	ctcccactgt	cctttcctaa	taaaatgagg	2940
aaattgcac	gcattgtctg	agtaggtgtc	attctattct	ggggggtggg	gtggggcagg	3000
acagcaagg	ggaggattgg	gaagacaata	gcaggcatgc	tggggatgcg	gtgggctcta	3060
tggcttctga	ggcggaagaa	accagtcgac	tcgaagatct	gggcgtggtt	aagggtggga	3120
aagaatatat	aagggtgggg	tcttatgtag	ttttgtatct	gttttgcagc	agccgcgcgc	3180
gccatgagca	ccaactcggt	tgatggaaag	attgtgagct	catatttgac	aacgcgcacg	3240
cccccatggg	ccgggggtgcg	tcagaatgtg	atggggtcca	gcattgatgg	tcgccccgtc	3300
ctgcccgcga	actctactac	cttgacctac	gagagcgtgt	ctggaacgcc	gttgagagact	3360
gcagcctccg	ccgcgcgttc	agccgctgca	gccaccgccc	gcgggattgt	gactgacttt	3420

gctttctctga	gcccgccttgc	aagcagtgca	gcttcccgtt	catccgcccg	cgatgacaag	3480
ttgacggctc	ttttggcaca	attggattct	ttgacccggg	aacttaatgt	cgtttctcag	3540
cagctggttg	atctgcgcca	gcaggtttct	gccctgaagg	cttcctcccc	tcccaatgog	3600
gtttaaaaca	taaataaaaa	accagactct	gtttggattt	ggatcaagca	agtgtcttgc	3660
tgtctttatt	taggggtttt	gcgcgcgcgg	tagggccggg	accagcggtc	tcggtcggtg	3720
agggtcctgt	gtattttttc	caggacgtgg	taaagggtgac	tctggatgtt	cagatacatg	3780
ggcataagcc	cgtctctggg	gtggaggtag	caccactgca	gagcttcatg	ctgcgggggtg	3840
gtgtttaga	tgatccagtc	gtagcaggag	cgctgggctg	ggtgcctaaa	aatgtctttc	3900
agtagcaagc	tgattgccag	gggcaggccc	ttggtgtaag	tgtttacaaa	gcgggttaagc	3960
tgggatgggt	gcatacgtgg	ggatatgaga	tgcactcttg	actgtatttt	taggttggct	4020
atgttccag	ccatatccct	ccggggattc	atgttgtgca	gaaccaccag	cacagtgtat	4080
ccggtgcact	tgggaaattt	gtcatgtagc	ttagaaggaa	atgctgtgaa	gaacttggag	4140
acgcccttgt	gacctccaag	attttccatg	cattcgtcca	taatgatggc	aatgggccc	4200
cgggcgcgcg	cctgggcgaa	gatatttctg	ggatcactaa	cgatcatagtt	gtgttccagg	4260
atgagatcgt	cataggccat	ttttacaaa	cgcgggcgga	gggtgccaga	ctgcgggtata	4320
atggttccat	ccggcccagg	ggcgtagtta	ccctcacaga	tttgcatttc	ccacgctttg	4380
agttcagatg	gggggatcat	gtctacctgc	ggggcgatga	agaaaacggt	ttccggggta	4440
ggggagatca	gctgggaaga	aagcaggttc	ctgagcagct	gcgacttacc	gcagccgggtg	4500
ggcccgtaaa	tcacacctat	taccgggtgc	aactggtagt	taagagagct	gcagctgccg	4560
tcatccttga	gcaggggggc	cacttcgtta	agcatgtccc	tgactcgcct	gttttccctg	4620
accaaataccg	ccagaaggcg	ctcgcgcgcc	agcgatagca	gttcttgcaa	ggaagcaaa	4680
tttttcaacg	gttttagacc	gtccgcgcgt	ggcatgcttt	tgagcgtttg	accaagcagt	4740
tccaggcggg	cccacagctc	ggcacacctg	tctacggcat	ctcgatccag	catatctcct	4800
cgtttgcggg	gttggggcgg	ctttcgctgt	acggcagtag	tcgggtgctg	tccagacggg	4860
ccagggtcat	gtctttccac	gggcgcaggg	tcctcgtcag	cgtagtctgg	gtcacgggtga	4920
aggggtgcgc	tccgggtgct	gcgctggcca	gggtgcgctt	gaggctgggtc	ctgctgggtgc	4980
tgaagcgtg	ccggtcttcg	ccctgcgcgt	cggccaggta	gcatttgacc	atgggtgtcat	5040
agtcacagccc	ctccgcggcg	tggcccttgg	cgcgacgctt	gcccttggag	gaggcgccgc	5100
acgaggggca	gtgcagactt	ttgagggcgt	agagcttggg	cgcgagaaat	accgattccg	5160
gggagtaggc	atccgcgcgc	caggccccgc	agacggtctc	gcattccacg	agccagggtga	5220
gctctggccg	ttcgggggtca	aaaaccagg	ttcccccatg	ctttttgatg	cgtttcttac	5280
ctctggtttc	catgagccgg	tgtccacgct	cggtgacgaa	aaggctgtcc	gtgtccccgt	5340
atacagactt	gagagggagt	ttaaacgaat	tcaatagctt	gttgcattgg	cggcgatata	5400
aaatgcaagg	tgctgctcaa	aaaatcaggc	aaagcctcgc	gcaaaaaaga	aagcacatcg	5460
tagtcatgct	catgcagata	aaggcaggta	agctccggaa	ccaccacaga	aaaagacacc	5520
atttttctct	caaatagttc	tgccgggttt	tgcatataca	caaaaataaa	taacaaaaaa	5580
acattttaac	attagaagcc	tgtcttacaa	caggaaaaac	aacccttata	agcataagac	5640
ggactacggc	catgcggcg	tgaccgtaaa	aaaactgggtc	accgtgatta	aaaagcacca	5700
ccgacagctc	ctcgggtcatg	tccggagtca	taatgtaaga	ctcggtaaac	acatcagggtt	5760
gattcatcgg	tcagtgtctaa	aaagcgaccg	aaatagcccg	ggggaataca	taccgcagg	5820
cgtagagaca	acattacagc	ccccatagga	ggtataacaa	aattaatagg	agagaaaaac	5880
acataaacac	ctgaaaaacc	ctctgccta	ggcaaaatag	caccctccc	ctccagaaca	5940
acatacagcg	cttcacagcg	gcagcctaac	agtcagcctt	accagtaaaa	aagaaaaact	6000
attaaaaaaa	caccactcga	cacggcacca	gctcaatcag	tcacagtgtg	aaaaagggcc	6060
aagtgcagag	cgagtatata	taggactaaa	aaatgacgta	acggttaaa	tccacaaaaa	6120
acaccagaa	aaccgcacgc	gaacctacgc	ccagaaacga	aagccaaaaa	accacaaact	6180
tcctcaaatc	gtcacttccg	ttttcccacg	ttacgtaact	tcccatttta	agaaaaactac	6240
aattcccaac	acatacaagt	tactccgccc	taaaacctac	gtcaccggcc	ccgttcccac	6300
gccccgcgcc	acgtcacaaa	ctccaccccc	tcattatcat	attggcttca	atccaaaata	6360
aggtatatta	ttgatgatgt	taattaacat	gcatggatcc	atatgcgggtg	tgaataaccg	6420
cacagatgcg	taaggagaaa	ataccgcctc	aggcgtctt	ccgcttcttc	gctcactgac	6480
tcgctgcgct	cggtcgttcg	gctgcggcga	gcggtatcag	ctcactcaaa	ggcggttaata	6540
cggttatcca	cagaatcagg	ggataacgca	ggaaagaaca	tgtgagcaaa	aggccagcaa	6600
aaggccagga	accgtaaaaa	ggccgcggtg	ctggcggttt	tccataggct	ccgccccctt	6660
gacgagcatc	acaaaaatcg	acgctcaagt	cagaggtggc	gaaacccgac	aggactataa	6720
agataccagg	cgtttccccc	tgggaagctcc	ctcgtgcgct	ctcctgttcc	gaccctgccg	6780
cttaccggat	acctgtccgc	ctttctccct	tcgggaagcg	tggcgctttc	tcatagctca	6840

cgctgtaggt	atctcagttc	ggtgtaggtc	gttcgctcca	agctgggctg	tgtgcacgaa	6900
cccccgttc	agcccgaccg	ctgcgcctta	tccggttaact	atcgtcttga	gtccaacccg	6960
gtaagacacg	acttatcgcc	actggcagca	gccactggta	acaggattag	cagagcgagg	7020
tatgtaggcg	gtgctacaga	gttcttgaag	tggtggccta	actacggcta	cactagaagg	7080
acagtatttg	gtatctgcgc	tctgctgaag	ccagttacct	tcgaaaaaag	agttggtagc	7140
tcttgatccg	gcaaaacaaac	caccgctggt	agcgggtggt	tttttgtttg	caagcagcag	7200
attacgcgca	gaaaaaaagg	atctcaagaa	gaccccttga	tcttttctac	ggggtctgac	7260
gctcagtggg	acgaaaactc	acgttaaggg	atcttgggtc	tgagattatc	aaaaaggatc	7320
ttcacctaga	tcctttttaa	ttaaaaatga	agtttttaaat	caatctaaag	tatatatgag	7380
taaacttggg	ctgacagtta	ccaatgctta	atcagtggag	cacctatctc	agcgatctgt	7440
ctatttcggt	catccatagt	tgccctgactc	cccgtcgtgt	agataactac	gatacgggag	7500
ggcttaccat	ctggccccag	tgctgcaatg	ataccgcgag	acccacgctc	accggctcca	7560
gatttatcag	caataaacca	gccagccgga	agggccgagc	gcagaagtgg	tcctgcaact	7620
ttatccgcct	ccatccagtc	tattaattgt	tgccgggaag	ctagagtaag	tagttcgcca	7680
gttaatagtt	tgcgcaacgt	tggtgccatt	gctgcagcca	tgagattatc	aaaaaggatc	7740
ttcacctaga	tccttttcac	gtagaaagcc	agtccgcaga	aacgggtgctg	accccggtatg	7800
aatgtcagct	actgggctat	ctggacaagg	gaaaacgcaa	gcgcaaagag	aaagcaggta	7860
gcttgacgtg	ggcttacatg	gcgatagcta	gactgggcgg	ttttatggac	agcaagcgaa	7920
ccggaattgc	cagctggggc	gccctctggt	aagggtggga	agccctgcaa	agtaaactgg	7980
atggctttct	cgccgccaag	gatctgatgg	cgaggggatg	caagctctga	tcaagagaca	8040
ggatgaggat	cgtttcgcac	gattgaacaa	gatggattgc	acgcagggtc	tccggccgct	8100
tggttgagga	ggctattcgg	ctatgactgg	gcacaacaga	caatcggtctg	ctctgatgcc	8160
gccgtgttcc	ggctgtcagc	gcaggggcgc	ccggttcttt	ttgtcaagac	cgacctgtcc	8220
ggtgccctga	atgaactgca	agacgaggca	gcgcggctat	cgtggctggc	cacgacgggc	8280
gttccttgcg	cagctgtgct	cgacgttgct	actgaagcgg	gaagggactg	gctgctattg	8340
ggcgaagtgc	cggggcagga	tctcctgtca	tctcaccttg	ctcctgccga	gaaagtatcc	8400
atcatggctg	atgcaatgcg	gcggctgcat	acgcttgatc	cggctacctg	cccattcgac	8460
caccaagcga	aacatcgcat	cgagcgagca	cgtactcgga	tggaagccgg	tcttgctgat	8520
caggatgatc	tggacgaaga	gcatcagggg	ctcgcgccag	ccgaactggt	cgccaggctc	8580
aaggcgagca	tgcccgacgg	cgaggatctc	gtcgtgaccc	atggcgatgc	ctgcttgccg	8640
aatatcatgg	tggaaaatgg	ccgcttttct	ggattcatcg	actgtggccg	gctgggtgtg	8700
gcggaccgct	atcaggacat	agcgttggct	acccgtgata	ttgctgaaga	gcttggcggc	8760
gaatgggctg	accgcttcc	cgtgctttac	ggtatcgccg	ctcccgatcc	gcagcgcac	8820
gccttctatc	gccttcttga	cgagttcttc	tgaattttgt	taaaattttt	gttaaatacag	8880
ctcatttttt	aaccaatagg	ccgaaatcgg	caacatccct	tataaatcaa	aagaatagac	8940
cgcgataggg	ttgagtgttg	ttccagtttg	gaacaagagt	ccactattaa	agaacgtgga	9000
ctccaacgct	aaagggcgaa	aaaccgtcta	tcagggcgat	ggcccactac	gtgaaccatc	9060
acccaaatca	agttttttgc	ggtcgagggtg	ccgtaaagct	ctaaatcgga	accctaaagg	9120
gagcccccg	tttagagctt	gacggggaaa	gccggcgaa	gtggcgagaa	aggaagggaa	9180
gaaagcgaaa	ggagcgggcg	ctagggcgct	ggcaagtgtg	gcggtcacgc	tgcgcgtaac	9240
caccacaccc	gcgcgcttaa	tgccgcgcta	cagggcgcg	ccattcgcca	ttcaggatcg	9300
aattaattct	taagtttttb	taacatcatc	aataatatac	cttatttttg	attgaagcca	9360
atatgataat	gagggggtgg	agtttgtgac	gtggcgcggg	gcgtgggaac	ggggcggggtg	9420
acgtagtagt	gtggcggaag	tgtgatgttg	caagtgtggc	ggaacacatg	taagcgacgg	9480
atgtggcaaa	agtgcggtt	ttggtgtgcg	ccggtgtaca	caggaagtga	caattttcgc	9540
gcggttttag	gcggatgttg	tagtaaat	gggcgtaacc	gagtaagatt	tggccatttt	9600
cgcgggaaaa	ctgaataaga	ggaagtga	tctgaataat	tttgtgttac	tcatagcgcg	9660
taatactg						9668